THE ARMED FORCES COMPTROLLER

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FRANK A. BOGART
Lieutenant General, U. S. Air Force
National President

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Kenneth E. Dunlap

(Signature of editor, publisher, business manager, or owner)

Sworn to and subscribed before me this 6 day of November, 1961

(SEAL)

Thomas M Vassil

Notary Public, D.C.

(My commission expires March 14, 19 62)

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(July 1960)

THE FIFTH ANNUAL NATIONAL CONVENTION OF THE AMERICAN SOCIETY OF MILITARY COMPTROLLERS

Kenneth E. Dunlap, Chairman of Convention Reporting Committee

The Fifth National Convention of the American Society of Military Comptrollers was held in room 5A-1070 of the Pentagon, Washington, D.C. on the afternoons of 21 and 22 September 1961.

Brigadier General Herman Nickerson, Jr., National President, ASMC and Fiscal Director of the Marine Corps, made the welcoming address. Mr. James F. Wright, Deputy Fiscal Director of the Marine Corps and National Vice President ASMC was the Presiding Officer. Other speakers included the Honorable Charles J. Hitch, Assistant Secretary of Defense, Comptroller, whose subject was "The Program Concept and the Budget Process"; Mr. Robert Turner, Assistant Director of the Bureau of the Budget, spoke on "Budgeting Within Government"; Mr. Ted Mahoney, Assistant Director, Accounts and Audit, General Accounting Office chose as his subject "The Role of Data Processing in Government Today" and Mr. Dewey Daane, Deputy to the Under Secretary of Monetary Affairs, Treasury Department whose subject was "Monetary Affairs in the Treasury Department."

Time does not permit the publication in this issue of all the foregoing.

Mr. Robert Turner's address follows:

UNDERSTANDING THE FEDERAL BUDGET

GENERAL NATURE OF THE FEDERAL BUDGET

Executive Program and Financial Plan

The Federal budget is a program and a financial plan for the coming fiscal year presented by the President to the Congress each January. As most of you know all too well, a great deal of care and painstaking effort goes into the preparation of this plan, starting in the various units of each Government agency and culminating in the President's office. A long and arduous decision-making process lies behind each annual budget document. What emerges is a program for meeting our national needs and the estimated requirements for financing this program.

An Action Document for the Congress

The budget document serves as the basis for congressional action on the President's recommendations. The administrative budget presents the President's recommendations for the total of financial authorizations—often called new obligational authority, needed to carry out the proposed program plan. These authorizations are mainly in the form of direct appropriations. Sometimes, however, they take the form of authority for agencies to borrow money, either from the Treasury or in the open market, to finance certain activities. Or they may take the form of authority for agencies to enter into contracts which obligate the Government; the actual payment of bills requires a later appropriation. These last two financing methods, sometimes called "back-door financing" because they usually by-pass the normal gantlet of the Appropriations Committees, are used when they seem especially appropriate for a particular program. However, all of these types of authorizations require an affirmative action by the Congress as a whole.

The administrative budget also contains estimates of actual expenditures to be made and the revenues to be collected in the period covered. These are the figures which indicate whether a budget surplus or deficit is anticipated. New obligational authority enacted by the Congress for a fiscal year and the expenditures in that year are often confused, even sometimes by members of the Congress themselves. At the start of a fiscal year, the Congress enacts appropriations and other new obligational authority for the year. In addition, there is a sizeable carryover of authorizations enacted for previous years and still unspent. To give you an idea of the magnitudes involved, the authorizations recommended for fiscal year 1962 total roughly $90 billion. Last January, the unspent authorizations to be brought forward from prior years into 1962 were estimated at $74 billion, making a total of authorizations available for expenditure of over $160 billion. But not all of this will actually be spent in fiscal 1962. Expenditures this year are estimated at about $88 billion, of

which probably two-thirds will stem from 1962 authorizations and one-third will come from prior authorizations. At the end of the year, some unused authorizations will expire. However, a considerable amount will remain for future use and will be carried forward into fiscal 1963 and later years.

BUDGET CONCEPTS AND COVERAGE

The budget about which we read in the newspapers and around which most public discussion centers is the "administrative" budget. It is the budget used in computing the annual surplus or deficit.

Actually the administrative budget tells only a part, albeit a very large part, of the story of the Federal Government's finances. A number of highly significant programs of the Federal Government are carried out with funds not included in the budget. Among these are the social security programs for retirement, disability, and unemployment insurance; the railroad and civil service employees' retirement systems; veterans' life insurance; and federally-aided highway construction. The money collected by the Government to finance these programs is, by law, held in trust and may be used only for the purposes specified in the law. The receipts and payments of these trust funds are not included in the totals shown in the administrative budget, and their transactions are not counted in deriving the budget surplus or deficit.

The Consolidated Cash Budget

The enormous growth of the trust funds in recent years—from roughly $9 billion in fiscal year 1955 to over $25 billion this year—has led to increased use by economists and others of the so-called consolidated cash budget in evaluating the impact of Federal Government activities on the economy. The consolidated cash budget is more inclusive than the administrative budget. It pulls together the budget and trust fund accounts and also includes the net expenditures of certain enterprises sponsored by the Government, such as the Federal Home Loan Banks. This consolidation is essentially intended to show the total amount of money which flows between the Government, on the one hand, and the public, on the other hand, in a given year. Financial transactions within the Government, which are recorded as expenditures in one account and receipts in another, are cancelled out, as are certain other transactions which do not involve a cash flow.

In terms of magnitudes, the administrative budget for the fiscal year 1961, showed expenditures at $81.5 billion and receipts at $77.6 billion, with a deficit of $3.9 billion. The "cash" budget totals for the same fiscal year were considerably larger, as you would expect. The "cash budget" deficit, however, was smaller. This budget showed payments to the public totaling $99.3 billion and receipts from the public totaling $97.1 billion, with an excess of payments amounting to $2.1 billion.

Effects of Changes in Accounting Methods

I would like to alert you to certain aspects of budget accounting that should be taken into account in interpreting budget figures, especially when making comparisons over a period of years. On occasion, changes may be made in the treatment of certain budget expenditures and receipts which can affect the size of the administrative budget, although the actual cost of Government is unchanged. I do not mean to imply that such changes are improper or undesirable; in many cases they represent an effort to achieve greater consistency in handling similar items or to eliminate unnecessary duplications of figures. But the totals of the administrative budget do change over time simply because of the evolution of concepts or variations in financing and accounting that should be taken into account in interpreting budget figures, especially when making comparisons over a period of years. On occasion, changes may be made in the treatment of certain budget expenditures and receipts which can affect the size of the administrative budget, although the actual cost of Government is unchanged. I do not mean to imply that such changes are improper or undesirable; in many cases they represent an effort to achieve greater consistency in handling similar items or to eliminate unnecessary duplications of figures. But the totals of the administrative budget do change over time simply because of the evolution of concepts or variations in financing and accounting techniques. Sometimes the changes affect the size of the surplus or deficit; other changes may be in the direction of reducing the budget totals without effect on the surplus or deficit.

Let me give you a few examples of what I have in mind. First, an outstanding example of financing techniques which have the effect of

both reducing the budget totals and changing the annual surplus or deficit was the decision in 1956 to finance the construction of an extensive federally-aided inter-state highway system outside the budget through a trust fund. As now established, certain highway-related taxes go into the highway trust fund and expenditures for highway construction are made from this trust fund. Taxes and expenditures for this purpose, currently amounting to more than $3 billion annually, had previously been a part of the administrative budget. The budget totals are therefore roughly $3 billion less than they would be if pre-1956 budget accounting methods were still followed, and the surplus or deficit is higher or lower than it would otherwise be, depending upon the balance between highway taxes and highway expenditures.

Another example is the lease-purchase program for Government buildings, originated several years ago, which called for construction of public buildings by private interests under long-term agreements with the Government. The Government pays each year a sum sufficient to cover operating costs, taxes, interest, and amortization. At the end of the period, which can be as long as 25 years, the Government assumes ownership of the building. Under this arrangement, the annual payment rather than the capital investment is recorded as a budget expenditure.

Still another method of financing which has the effect of altering the size of the budget in a particular period arises from the fact that when the Government *borrows* money, the proceeds are not included in receipts (and repayment of borrowed funds is not included in expenditures), but when the Government *lends* money, the loan is counted as an expenditure. But, if the Government lends money to someone, and then sells the loan to a private lender, the proceeds of the sale (sale of an asset) becomes a receipt which can offset the expenditure. For example, in 1954 a change in the method of financing Commodity Credit Corporation loans was introduced. The CCC makes price support loans to farmers. This is a budget expenditure. Then, they may sell "certificates of interest" in a pool of these loans to private banks, the proceeds being credited against the previous expenditure. Under certain circumstances, the banks may turn the certificates of interest back to the CCC. Under our Government accounting system, changes in the volume of outstanding certificates of interest have an equal and inverse effect on budget expenditures. The volume does change from time to time, depending on the rate of interest on these certificates relative to other money market rates, and alternative l e n d i n g opportunities available to banks. It is quite possible for expenditures to be increased or decreased by as much as a billion dollars or so, in any given fiscal year, simply as a result of fluctuations in bank holdings of these certificates.

M o r e recently, in President Eisenhower's budget sent to the Congress l a s t January, a change was initiated which reduced the budget totals by an estimated $667 million by deducting from both budget receipts and expenditures certain intragovernmental transactions, mainly interest payments to the Treasury by Government enterprises which had borrowed from the Treasury.

It is obvious that most of these b u d g e t anomalies arise from two characteristics of Government accounting: first, the lack of inclusiveness of the regular or administrative budget; and second, the fact that Government accounting makes no distinction between current and capital expenditures. When the Government spends money to build a hydro-electric project that will produce revenue for a hundred years, or lends money that will presumably be repaid, that payment is charged as a current expenditure just as is a purchase of typewriter paper or payment of salaries of guides in the national parks.

This is silly, you say. Why not use business-type accounting methods in Government? Why not have an operating budget and a capital budget? Many proposals in this direction have been made, and some day I daresay that some such accounting system will be worked out. There is no time to go deeply into this subject here, but let me warn you that it is not so simple as it might seem. In the first place, the distinction made in business between a capital and a current expenditure is quite arbitrary, and it would be even more arbitrary in Government. Business firms frequently capitalize, not o n l y expenditures for physical assets of long life, but expenditures for intangible earning assets such as patent rights, investment in a major technological research effort, consumer acceptance b o u g h t with advertising, or simply good will. Should

Government similarly capitalize military expenditures which improve our defense posture in the world, or expenditures for education which improve the earning power of our citizens, or expenditures for scientific research to improve the health and productivity (and hence the tax-paying ability) of our people? According to such a theory, a substantial portion of the Federal budget would be capitalized and the Federal Government would be the most "profitable" enterprise on earth.

But wait. How about the income side of the Government's accounts? Money lent to the Government—the Public Debt—we can enter, not as income, but as a liability. But how about tax receipts? Are these payment for services received, or equity investment in the Government? Some tax payments, such as gasoline taxes, are tied closely to benefits received, but in most instances there is no way of knowing when any given tax dollar is intended to provide us with a concert by the Army Band or to build a missile base.

I raise these questions, not to answer them, but only to impress upon you the inevitable complexities of Government accounting, arising out of the simple fact that Government is Government, representing and serving the society as a whole, in contrast to a business firm which can be identified, for accounting purposes, as a separate entity dealing with the rest of society.

I would like now to turn to some *current* aspects of the budget and the budget process.

THE BUDGET AS A POLITICAL AND SOCIAL DOCUMENT

As I indicated earlier, the budget process is as an integral part of the decision-making process—decision-making by both the President and the Congress. It is the function of the budget to provide the President, the Congress, and the public with the broadest possible perspective on the business in which the Government is engaged; to organize the components of the Government's total program in a systematic way so that costs may be weighed against objectives; to identify both the cost of the total program and the cost of competing components within that program in relation to each other and in relation to the program as a whole; and to identify accurately and objectively the degree of priority which should be attached to the various components of the total program. That is, the budget is an instrument to aid the President and Congress in deciding what should be the agenda of Government. This is, of course, a large order. It requires trying to summarize and identify priorities attached to a range of activities, including all of those in the consolidated cash budget, that add up to about one-fifth of the Nation's gross product.

This involves making decisions simultaneously as to the total of Government expenditures and the division of that total among competing needs and desires. Notice, please, that I said "simultaneously". We feel that it would be a mistake to fix a predetermined maximum or ceiling for budget expenditures for the next fiscal year, and then to force the budgets for the several individual agencies to add up to not more than that total. Such a procedure fails to take into account the varying degrees of priority to be attached to individual programs in deriving that total. The preferable procedure, in our judgment, is to develop estimates for each agency and for each program within each agency, having in mind only rather general objectives for the total of all Government expenditures, then to add the totals for all of the agencies to see what the grand total is. The next step, if the total is in excess of what is considered to be appropriate or economically desirable, is to take a second look at the programs for each agency with a view, not to achieving a certain figure for that agency, but to applying a higher priority test. After this is completed for each agency, the totals are added together again and the process repeated as many times as is necessary to achieve an optimum balance between individual agency programs and the total program of the Government. In practice, I should admit, time does not permit repeating this cycle very many times. About two complete cycles of budget review are about all that is feasible in a given budget year. Nevertheless, we believe that this procedure will produce a better product than would otherwise be the case.

Another improvement we are working on is the preparation and consideration of budget estimates, not only for the fiscal year immediately ahead, but for several years beyond that—for as far into the future, indeed, as reasonably dependable estimates can be made. Failure to do this in a systematic way has been a fundamental error of budget making in the past. Too often expenditure programs have been approved on the basis of only their first year effect, with only

vague consideration being given to the cost in subsequent years. It is to remedy this procedural defect that the Budget Bureau is trying to make a start, with the President's approval, toward introducing a longer perspective into our budget process. We have explored with the departments and major agencies over the past two or three months factors affecting their program requirements through fiscal year 1966. We have jointly attempted to relate program requirements to the social benefits to be derived from them, and to identify the specific issues that are involved in weighing benefits against costs. We are, moreover, asking the agencies to include with their upcoming budget estimates for the fiscal year 1963 their preliminary estimates for the three following years. We hope that by a year or two years from now, the 50-odd agencies of the Government and the Bureau of the Budget can gear themselves to do a more adequate job of long-run, forward-looking budget and program planning.

The Budget as an Economic Document

As I said earlier, total cash expenditures of the Federal Government account for about 20 percent of the gross national product. A budget this large has a major economic impact, and the balance between the revenues and expenditures is of strategic importance to the level of business activity. Although these two aspects of the significance of the Federal budget—the absolute total, and the surplus or deficit position—are, of course, closely interrelated, it is helpful to look at them separately. First, what should be the absolute level of Federal expenditures? In principle, the answer to this question is clear. Federal expenditures should be set at a level such that the marginal value received by the people from an additional dollar of Government expenditures is exactly equal to the marginal value of that same dollar if spent privately. That is, if we as a people are better off by having the Government collect another dollar, either by taxation or borrowing, and spend it for schools or highways or space exploration or defense, than we would be if we kept that dollar and spent it for automobiles or furniture or liquor or whatever expenditures might be curtailed by loss of that dollar, then the Government expenditure is an appropriate one. If we are not better off, it is not an appropriate one.

In practice, however, the answer is not nearly so simple, for several reasons. First, if we as a Nation are not using our productive capacities fully, an additional dollar of public expenditures may not require any reduction in private expenditures. Whether or not it will actually reduce private expenditures will depend on h o w the money is raised, by taxation or borrowing—presumably the latter—and by what kind of borrowing. Increases in the public debt, however, can be made only with due regard to the requirements and conditions of the financial markets, the willingness of individuals and financial institutions to absorb increased Government securities, and attitudes of investors toward the level of the Government debt.

Moreover, it is extraordinarily difficult to assess the value of an additional Government expenditure, not to mention the value of the private expenditure that might be foregone if that Government expenditure were to occur. What is the value, for example, of additional funds spent for space exploration or for medical research, relative to the same funds spent by individuals for personal living? Of this much, I think we can be sure: unless there should be a significant easing of international tensions, Government expenditures will, and properly should, rise gradually over the years. Our population is growing. As our civilization becomes increasingly complex and interdependent, people need and demand more and more in the way of Government services. Further, as the level of per capita real income rises over time, people can afford to spend more for both the kinds of services that are provided by Govenment and the kinds provided by private business.

It is well when speculating along these lines, however, to remember that national security expenditures bulk very large in the Federal budget. They account for well over half of regular budget expenditures, and for over 85 percent of Government purchases of goods and services. If international tensions should ease only moderately, so that defense expenditures could be held constant or reduced slightly, it is entirely possible that the total Federal budget would claim a declining percentage of our gross national product. This happy situation, however, does not seem to be immediately in prospect.

At the moment, when our economy is operating at something like $40 billion below its full employment potential, there is abundant room for additional Federal expenditures *if such expendiutres are considered necessary in the na-*

tional interest. For example, we could increase defense expenditures, if need be, by several tens of billions of dollars without depriving ourselves of any nonmilitary good or service, public or private. Please do not misunderstand me. I am not advocating that defense or any other expenditures be increased by this or any other amount. I am arguing that we should not refrain from making needed Government expenditures on the arbitrary assumption, so often heard, that "we cannot afford them." In President Kennedy's words, "We can afford to do what must be done, publicly and privately, up to the limit of our economic capacity—a limit we have not even approached for several years." The crucial question is not whether we can afford increased public expenditures, but rather what is the relative importance of using our resources for these purposes as compared with other purposes, public and private.

The second major question of fiscal policy has to do with the balance between revenues and expenditures in any given fiscal year. More than a quarter century ago, the economics profession developed an axiom of fiscal policy that it is unsound to attempt to balance the Federal budget each fiscal year—that it is desirable to have a deficit in the Federal budget in times of recession and unemployment, and a balance or surplus in the budget in times of prosperity and high employment. Gradually, as time goes on, this idea is coming to be accepted by Members of the Congress and by respectable business groups such as the Committee for Economic Development, the National Planning Association, and the Commission on Money and Credit. Walter Lippman wrote, "It is a complicated thing to explain that the Federal budget is not only an accounting of revenues and expenditures. It is also a great fiscal engine which as a matter of national policy has to be managed in such a way as to promote a stabilized growth of the economy. It is a makeweight which has to be swung from deficit to surplus and from surplus to deficit to compensate for the ups and downs of the business cycle. There is nothing sinister or mysterious in this idea. But it is a new idea."1/

The 1957-1958 recession resulted in budget deficits in fiscal years 1958 and 1959 totaling $15.2 billion. In the fiscal year 1959 alone, the Federal Government experienced the largest peacetime deficit on record—$12½ billion. This deficit was very properly timed to stimulate recovery from the recession. Had the Federal Government cut back its activities drastically in that year, in an attempt to balance the budget, the effect would have been to precipitate a far worse recession than we actually had. Whether this budget deficit was the result of deliberate planning by the Eisenhower administration, or an inevitable event reluctantly accepted, is not particularly relevant. It was sound fiscal policy. The real error in fiscal policy was made in the following fiscal year when the Federal Government's budget position switched from this large deficit to a surplus of over a billion dollars. The surplus came too soon, before we had succeeded in restoring an adequate level of employment and business activity. This abrupt shift in fiscal policy, coupled with a prematurely tight and severe monetary policy, go far toward explaining the downturn in business activity that began in the latter part of 1960.

The opposite facet of this axiom of fiscal policy is that we should plan for budget surpluses in times of prosperity to offset the deficits in times of recession. Stated more accurately, we should plan for a neutral or balanced budget as we approach full employment, and for budget surpluses in times of boom and inflationary pressures.

Fiscal policy management in times of business recovery and approaching prosperity is extremely tricky business. Our tax system is very responsive to changes in the level of business activity. From fiscal 1959 to fiscal 1960, for example, even though the recovery from the recession was far from complete, revenues jumped by nearly $10 billion, from $67.9 billion to $77.8 billion. The $12½ billion deficit of 1959 was turned into a surplus in 1960, partly by a $3.8 billion cut in expenditures, but chiefly by this $10 billion increase in Treasury revenues. This high degree of sensitivity of our revenue system to business activity means that there is always a danger, unless fiscal policy is managed very skillfully, that a surplus in the budget will arrive too soon, and will choke off the revival in business activity that would make further surpluses possible.

Furthermore, aside from recovery from a recession, ordinary long-run growth in the American economy should generate a growth of bud-

1/ Quoted by Edward T. Chase in *The Atlantic*, August 1961, p. 35-36.

get revenues of about $5 billion a year. This means that, if there is to be no change in the surplus-deficit position of the Federal budget, either Federal expenditures should rise each year by the same amount or the tax rate should be reduced. Which of these alternatives is appropriate, or what combination should be chosen, is another problem. My point is that, from the point of view of its economic effect, fiscal policy planning should take into account both the normal long-run growth in budget receipts and the high degree of sensitivity of budget receipts to fluctuations in business activity, and should time deficits and surpluses so that steady economic growth, unmarred at least by Government-induced recessions, can be maintained.

★★★★

MONETARY AFFAIRS IN THE TREASURY DEPARTMENT

Address by Mr. Dewey Daane

Ladies and Gentlemen, it is a real pleasure to have this opportunity to meet with this exceptional group and to talk about some of our Treasury activities that are of common interest--common interest because as the President pointed out in both his State of the Union and economic message and has repeatedly reiterated, a dollar that, as he put it euphemistically, a dollar that is as sound as a dollar, or on another occasion I think he said a dollar that is as good as gold, is essential to the international economy and the defense of the western world.

Debt management—the area that I would really like to talk with you about today along with fiscal policy and monetary policy plays an integral role in implementing a program of federal financial responsibility such as the President has pledged. Rather than attempt this afternoon to cover the wide range of Treasury activities both non-monetary and monetary, activities that range from enforcement agencies like Narcotics, Secret Service, Customs, a regulatory agency like the Comptroller of the Currency, to a fair sized establishment in the military field—the Coast Guard—all the way over to tax policies, policies with respect to gold and silver and so on, I would like to focus today more intensively on our debt management area.

When I was a Senior Undergraduate at Duke University a good many years back, I took a combined graduate-undergraduate course in economics entitled "Population Problems" taught by Professor J. J. Spengler, an outstanding economist with a national-international reputation, past President of the Southern Economic Association, the American Economic Association and so on. At the same time Mr. Spengler was teaching this course at Duke, a Professor Ernest Groves, who also had a national-international reputation, was teaching a course in marriage relations over at the University of North Carolina at Chapel Hill, just ten miles away. At Duke in my day the young ladies from the girls' campus, physically separated by about 1½ miles from the mens' campus, were allowed to come over in their senior year and take classes on the mens' campus, but very seldom wandered or strayed into an advanced economics course. But the first day of this particular class the first two rows were entirely filled with Duke girls. Professor Spengler sat up in front of the class scowling and finally broke into a smile and started out this way: "If any of you are looking for a course in the birds and the bees and the butterflies, this isn't it. This is a highly technical course in the Economics *not* the mechanics of population problems, and if any of you are here under any misapprehension you are free to leave." At which point about a dozen of the Duke girls blushed and walked out of the room.

Well, I am not going to invite any of this audience today—this captive audience today—to leave but I would like to stress that I am not going to talk about all of the Treasury's monetary activities but rather talk with you briefly and informally about our debt management problems and policies from a technician's standpoint—in other words, the mechanics of debt management which still has a direct and significant relationship to the effectiveness of our overall financial policy. Having said that I want to talk about the mechanics of debt management, I'd like to hasten to add that there's nothing mechanical—nothing static—about our debt management policies and problems. Both the policy objectives and the techniques of implementation of these objectives are subject to change and adaptation to the changing environment in which debt management operates.

To illustrate this quickly, our debt management objectives have evolved over time from the first objective, which is still with us, of simply raising the money to pay the bills, to the recognition of the contribution that can be made by debt management to sustained economic growth and, most recently, the addition of a new dimension to our debt management considerations in terms of balance of payments considerations. Similarly on the techniques side we are constantly searching for new means of assisting us to achieve our objectives in debt management—new types of securities, new methods of marketing.

In the relatively short time that I have been with the Treasury, we have resorted to two marketing methods—one known as cash refunding and the other as advance refunding. A cash refunding means simply not assuring the owner of a security that is maturing, that at time of maturity he can automatically roll over into the new security that the Treasury offers. An advance refunding means offering to the holder of an existing security, well in advance of the maturity of that security, a new security in exchange that keeps that investor as a bonafide Treasury investor.

Before turning in more detail to the policy objectives in debt management, however, one further comment is in order on the role of debt management in the general framework of the government's overall economic objectives. Debt management is an important link but is only one link in the chain of federal financial responsibility. The two strongest are an active and sound fiscal policy and an independent and responsible monetary policy. Without strength in these areas there is very little that debt management can do by itself, but with effective fiscal and monetary policy then an appropriate debt management can contribute substantially to our overall financial strength.

Turning then to the objectives of debt management, as an integral part of our federal financial responsibility, there are a number of basic policy objectives or guidelines to policy. The first is the obvious one I have mentioned — simply raise the money to pay the bills. The first obligation that we have in the Treasury is to raise the money to meet the government's fiscal requirements, and this is a limiting factor in achieving our other objectives. I think we need to keep in mind that the area of discretion in which debt management operates is limited. The Treasury, in effect, is handed a total amount of debt outstanding which it must manage and the environment in which it manages depends significantly on whether we have a federal surplus or deficit.

Second, among our policy objectives, and also fairly obvious, is that the Treasury, just like any other borrower, would like to borrow as cheaply as possible, but unlike other borrowers, must consider the impact of its actions on the financial markets and the economy as a whole, so that at all times our desire to borrow as cheaply as possible must be balanced against broader considerations of the public interest.

Third, therefore, is the objective of managing the debt in a way that will contribute to, or at least not inhibit, an orderly growth of the economy. There are several implications of this. First, it means that as far as possible we ought to try to place our debt outside of the banking system, where it is non-inflationary, except in a recessionary period. Second, it means we have to exercise restraint in the volume of long term securities that we issue in order not to preempt the flow of new savings that otherwise may flow into and generate activity in the private sector of the economy. And third, we need to try to minimize the frequency of our trips to the market so as to give the Federal Reserve authorities a freer hand in managing moneary policy, and so as not to interfere unduly with corporate and municipal financings and financings in the mortgage market.

To illustrate this briefly, in 1960 the Treasury issued more than $60 billion of new marketable issues excluding weekly bills. It engaged in 14 separate debt operations and issued more than $80 billion of regular 3-month and 6-month Treasury bills. The sale of securities in this massive volume, even in financial markets as broad and highly developed as ours clearly must exert a powerful influence throughout our entire economy. And it's the responsibility of debt management to assure as far as possible that this is beneficial rather than harmful upon the economy.

A fourth major objective is the one I have indicated, a new dimension that has been added to the considerations that govern Treasury policies in the debt management area—namely, the

balance of payments. There are really two separate aspects of this problem insofar as debt management is concerned. One relates to the supply of dollars flowing abroad as a result of what we term deficit creating activities. This is really everything that affects the flow of payments abroad and the flow of dollars abroad. And the second problem is the gold problem that results only when the dollars that flow abroad get in the hands of foreign central banks and governments and then they elect to prefer to hold gold. To attack the first problem, at least the part of the dollar outflow that is due to capital movements abroad—if I may digress for just a moment—we had last year in the neighborhood of 3.9 billion dollars deficit in our balance of payments, including about 2 billion dollars of short term capital outflow in part responsive to a difference in interest rates between here and abroad. To get at this first flow of dollars, or at least the flow of dollars on account of interest rate differentials, the President proposed early this year that debt management, along with monetary policy, be used in such fashion as to try to check the downward pressure on short-term rates while promoting a flow of credit at low rates in the longer sector of the market in order not to impede the recovery and growth of our domestic economy.

The other aspect — namely, to encourage holding dollars or dollar assets rather than gold, once the dollars do get abroad — again affects debt management. The program that we are attempting to follow up involves several measures in a sort of package. The first measure the President called for was to utilize an authority that the Treasury already has to issue special issues to foreign central banks or governments, to encourage these foreign central banks and governments to hold these dollars in another form than gold. A second part of this package was to try to amend the Federal Reserve Act so as to eliminate the ceiling on interest paid on time deposits of foreign central banks and governments. And a third was to unify the tax treatment, so that again they could keep their funds invested in U. S. Treasury obligations rather than have an additional inducement to convert them into gold. On this particular package the unification of the tax treatment has gone through Congress—the elimination of the ceiling on interest payable on time deposits is still in the legislative mill, and the use of the Treasury special authority that it already has to issue special issues we have used in connection with the recent United Kingdom drawing on the International Moneary Fund which in effect neutralized some $450 million of dollars that the British Government obtained under this drawing. They held the $450 million in the form of a special issue.

A fifth objective, but far from the least for debt management, is that of achieving a balanced maturity structure of the debt. That is one tailored to the needs of the economy for a sizeable volume of short-term securities but one that also includes a reasonable amount of long term securities.

I think no review of the objectives of debt management would be complete without pointing out and emphasizing that these objectives are not easily reconcilable. President Kennedy pointed to the apparently contradictory objectives in his economic message of checking a decline in short rates while increasing the flow of funds ino long term markets at declining rates. This is a seemingly contradictory objective although I think the policy sometimes referred to and named "Operation Nudge" has been quite successful in this respect because since the first of the year our short term rates have held in a reasonable relationship on the international side, while we have had a substantial flow of funds in the longer sector of the market, which flows are more significant than a rate decline per se.

Similarly contracyclical objectives of debt management aren't always possible. On a contracyclical basis, as I have indicated, we would always issue short-term securities in recession periods not in expansion periods, but our needs for funds are so great, and the supply of funds in any given period in the longer sector of the market is so limited, that we frequently have to finance short despite the inflationary implications of this is an expansionary period. Similarly our contracyclical objective would call for never issuing long term securities in a period of recession or incipient recovery, but our housekeeping needs, and the need to work at all times toward a more balanced maturity structure of the debt, requires us to at all times try to issue some longer term securities to m e e t this objective. With this very brief review of the objectives and fundamental considerations that surround our debt management decisions I'd like to try to put more flesh on this skeleton in the current context of the problems confronting debt manage-

ment. And here I think we have to begin with the debt itself and some of the considerations that really relate to it.

Beginning then, with the debt itself—as a matter of perspective on our debt management decisions—from the beginning of this country as an independent nation we have actually spent something over $1.5 trillion dollars, and we have taken in something over $1.2 trillion dollars, leaving a net difference of something under $300 billion. The actual difference, the debt at the end of August, was $294 billion and this is the debt that we are confronted with managing. I might mention in passing that we have a debt ceiling currently of $298 billion and looking ahead a bit at this it appears that we will approach this ceiling, and perhaps skirt it, sometime near the end of this year but not breach it. This then is a quick picture of the growth of our public debt, most of it occuring in the last twenty years.

Frequently, the people who talk with me about the debt talk about the *size* of the debt as being the major problem, but size is *not* the real problem of the manageableness of the public debt. This is apparent in looking at some of the figures that relate the debt to other magnitudes. It's true that since the end of World War II (December 1946) our debt has grown by roughly 34-35 billion dollars but our population and output of goods and services have grown much faster than this, so that on a per capita debt basis our debt has actually gone down since 1946 from 1800 dollars plus per person to under 1600 dollars. One of my predecessors at the Treasury, Under Secretary Randy Burgess, when he used this material, used to say that every time a baby was born in the United States it cried and it cried for three reasons—one, because it was cold, two, because it was hungry, and three, because it realized it owed 1800 dollars on the federal debt. Well, if that is the reason it would have less to cry about now than it had in the first post-war year. Similarly in relating the debt to our Gross National Product, our total output of goods and services, the debt has shrunk from 116 percent down to 58 percent; and while admittedly about half of that is accounted for, a little less than half of that, by rising prices, more than half of it is accounted for by growth in real product so that the burden of the debt in that sense has diminished. And finally, in terms of perspective, I think it is well to keep in mind that our debt has not grown—our federal debt has not grown--anything like the rate of growth of other forms of debt. Since the end of 1946 our federal debt has gone up 12 percent, our state and local debt has gone up over 4 times, our corporate debt has gone up over three times, and our individual debt nearly 5 times.

The debt, after all, is as I have indicated "handed" to us in terms of magnitude to manage and is a result of the budget process and of congressional action with respect to receipts and expenditures. What is the latest on the budget deficit and where are we headed with respect to this? Where do we stand? Well, the latest published estimate of the deficit shown was 5.3 billion dollars. This is for FY 1962. The Secretary of the Treasury in a speech out in San Francisco a week or two ago said that he now thought it probably would be somewhere in the $6 billion range, but that pending the completion of the congressional session and the evaluation of congressional actions or inactions it was hard to be more precise than this. Again by way of perspective this is still roughly half the deficit that emerged following the 1958 recession. And also for perspective, I would also like to state that you have the large part of the deficit concentrated in the last half of a calendar year because of the seasonal nature in the pattern of our receipts and expenditures. As a result almost all of this FY 1962 deficit, of whatever magnitude does eventuate, would be concentrated in the last half of calendar 1961 rather than the first half of 1962, so that this is part of the financing problem that we face for the balance of this year.

The real problem of debt management, however, is not the size of the debt but the *structure* of the debt. And here we divide our total debt into two parts—a total debt of $294 billion into two parts—marketable and non-marketable. Of the non-marketable the one you are most familiar with undoubtedly is our Savings Bonds Program. Here is a non-marketable area where the Treasury really has very little control. Changes are due to influences outside of us in the private sector of the economy, once we have set the terms under what legislative authority we have. The part that we really have to manage, and the part that we do control in effect, is of course the marketable sector of $191 billion. And here we have a clear problem of structure that we live with day by day. The real structural problem of the public debt is indicated by the concentration of maturities — the growing concentration — in

the one to five area, which means that they are constantly poised to tumble down into the under one year area. The under one year debt in the neighborhood of $75 to $80 billion, in and of itself is not a tremendous problem for the Treasury because it seems that the needs of our economy require short-term debt instruments in about that magnitude. But we are like the red queen in Alice in Wonderland with respect to the rest of the debt. We have to run twice as hard all the time to stay where we are, to prevent this middle block of debt from tumbling down into the one or under one-year debt. For example, if from the end of July to the end of December of this year we did nothing but roll over our debt and raise new money in the under one-year area we would have had $100 billion of under one-year debt by the end of this year — a magnitude much too large for our economy to handle and one that would give us problems both domestically and in the eyes of our foreign friends. Thus the real structural problem here is to try to do something at all times to achieve a better balanced structure, in other words to do some debt extending under any conditions that are favorable to such extension. The results of trying to run as fast as you can to stand steady is shown by the average maturity structure of the public debt. Despite all of our efforts to push out longer term securities and to take advantage of various techniques to achieve debt extension, the average maturity structure of our debt has shortened markedly since the war and we are just about holding our own at present in spite of some efforts that I will talk about in just a moment. The average at the end of August was 4.5—4 years and 5 months—and due to a recent advance refunding we now have, or will have, an average at the end of September of 4 years and 8 months.

Against this backgrond of the size of debt, and the structure of the debt, what was the outlook at mid-year that had to be done in the balance of this year, and our mid-year cash needs? Our indicated cash needs were around 9½ billion in the way of new borrowings. This is what we confronted at the mid-year of 1961. In addition to these cash needs of about $9½ billion we confronted a refunding problem, that is securities that would be maturing in the last half of 1961, totalling some $22 billion. This is the outline of the magnitude of the problem that confronted the Treasury, looking in mid-year 1961 at the balance of the year.

And what have we done with respect to this new money borrowing? We have borrowed in July using largely short - term securities — Tax Anticipation Bills—due next March, in addition to one-year bills maturing in July of next year—a total of something over $4 billion, in this way, so we left ourselves a job in the magnitude of $5 to $5½ billion as we went into Labor Day. Then in the week following Labor Day we announced a double package of cash financing and advance refunding which takes into account our basic consideration of the need for some short-term securities—partly in the light of international considerations. In the light of these and in the light of market considerations, we announced on September 7th that we would raise approximately $5 billion in cash, with an offering of a tax anticipation bill in the neighborhood of $2½ billion, actually auctioned yesterday very successfully.

We also announced another security—a note that will mature around the spring of 1963 when we fully expect, in the light of the government's determination and the President's determination, and that of the Secretary of the Treasury and I am sure of you people, that we will have a balanced budget in fiscal 1963. In the light of this clear determination to have budget balance, this would mean in terms of the pattern of our receipts and expenditures that we would be running a surplus in receipts in the first half of calendar 1963 and, therefore, we have desigend this cash borrowing to go over into the spring quarter of 1963 to the extent of $2 billion of it rather than putting it all into a June tax bill maturing in June of 1962 when we will still be in deficit.

Finally keeping in mind this major need at all times to do some debt extension, on September the 7th, we offered the holders of some 7.6 billion dollars of securities that were purchased during World War II of 2½% bonds maturing in 1965-70 and 1966-71, the option of exchanging these securities for three outstanding issues of 3½% bonds with much longer maturities—with maturities that went out to 1980, 1990, and 1998. By keeping these long term investors invested in long - term securities, and by extending their holdings out to 1980, 1990, and 1998 the Treasury has been able to do something in this current package about this debt structure problem. As I have indicated we have raised the average, which really is not as significant as the structure

itself, from 4.4 to 4.8 months — 4 years and 4 months to 4 years and 8 months. But more importantly we have extended a large block of the debt, since 50% of the outstanding public holders accepted this exchange offer out into the longer term area.

I wish that time permitted me to sketch very briefly for you some of the organizational part of this process—how we work on it at the Treasury with a debt management staff on a constant review basis, how we employ — not employ but rather take advantage of—advisory committees from commercial banking and investment bankinging and outside in helping us to appraise the market demand for these securities. I also wish I could go into the problem with you of how we price securities, how we pick specific maturities, in the light of our general objectives, but I think at this point it would be better to throw the floor open to you for some questions and I will simply conclude with another personal experience that I was privileged to have in New York in attending the performance of the play "The Tea House of the August Moon" a few years back. While my memory is not completely clear on this one, I recall one scene — at the beginning of each scene the man who played the Okinawan interpreter, Sakini, came out and bowed and scraped and delivered some little moral aphorism that would set the tone for the scene to follow— and one in particular that I do recall, he came out and bowed and scraped and said something like this, "In my country, Okinawa, nude woman bathe with nude man, perfectly all right. Nude woman on wall, not at all. In your country, nude man not bathe with nude woman, nude woman on wall, everywhere. Conclusion—pornography a matter of geography".

My conclusion is not that debt management is a matter of geography but rather that it is a matter of informed judgment from the weighing of these various objectives that I have briefly sketched for you, right on through to the process that I haven't had time to really get into detail with you, that of selecting the specific issues, specific maturities, the pricing of these securities, the appraisals of market demand, and on down to the wire which we confronted just two weeks ago yesterday of pricing $5 billion of cash issues and hoping that we would get some customers to stay with us in Treasury issues of longer term duration because of the necessities of our maturity structure. So that debt management is—and paraphrasing Hawtron's Art of Central Banking—I think, an "art and not a science".

★★★★

The following National Officers were elected at the business session:

Name	*Office*
Lt. Gen. Frank A. Bogart, USAF	President
Rear Admiral Lot Ensey, USN	Vice President
Maj. Gen. W. P. Farnsworth, USAF	Vice President
Col. A. E. R. Howarth, USA	Vice President
Brig. Gen. H. Nickerson, Jr., USMC	Vice President
Captain Wm. W. Childress, USCG	Vice President
Howard W. Bordner, OSD	Vice President
Thomas L. Coates, Marine Corps	Secretary
Lawrence E. Chermak, USN	General Counsel
Eugene Regan, Marine Corps	Treasurer
Kenneth E. Dunlap (Navy)	Editor

CONVENTON DINNER MEETING

A well attended Convention Dinner Meeting was held in the evening of the last afternoon of the convention at the Arlington Hall Officers Club, Arlington, Virginia with a hospitality hour at 1830, dinner at 1930; climaxed with an address, "The World Today", by His Excellency, George Kung-chao Yeh, Ambassador of the Republic of China. This address was very well received, especially in view of the fact that His Excellency, the Ambassador, took time from his busy life at the United Nations expressedly for our Society. The following indicates a career of public service together with intellectual pursuits in the arts.

BORN

October 20, 1904, in Canton, Kwangtung province, China

EDUCATION

B. A., Amherst College, Mass., 1925; M. A., Cambridge University, 1926; LL. D. (Hon.), University of Seoul; LL. D. (Hon.), Amherst College, 1959.

FAMILY

Married to Edna Yun-hsi Yuan 1930. Son, Max Wei; daughter, Marian T'ung (married).

CAREER

Instructor of English, National Peking University 1926-27, Assistant Professor of English, National Chinan University 1927-29, Professor of English Literature, National Tsing Hua University 1929-35, Professor and Chairman of the Department of Western Languages and Literature, National Peking University 1935-39, awarded research fellowship in literature by China Foundation, 1937-39.

Director, British Malaya Office, Chinese Ministry of Information 1940-41

Director, United Kingdom Office, Chinese Ministry of Information 1942-46

Counselor and concurrently Director of European Affairs Department, Ministry of Foreign Affairs 1946-47

Administrative Vice-Minister of Foreign Affairs 1947-49

Ambassador Extraordinary on Special Mission to Burma, December, 1947

Political Vice - Minister of Foreign Affairs 1949

Minister of Foreign Affairs 1949-58

Chairman of Chinese Delegation to the 7th, 9th, 10th and 11th regular sessions of the United Nations General Assembly in 1952, 1954, 1955 and 1956

Chairman, Chinese Delegation to the Commemorative Session of the 10th Anniversary of the United Nations 1955

Head of Chinese Government Mission to Thailand and Cambodia in 1956

Head of Chinese Government mission to Saudi Arabia, Iran, Iraq, Jordan and the Lebanon in 1957

Head of Chinese Government mission to Vietnam in 1958

Special Envoy of the Republic of China to Witness the Inaugural Ceremonies of the President and Vice-President of the Republic of Liberia, January 1960

Ambassador to the United States 1958-

DECORATIONS

Special Grand Cordon of the Order of Brilliant Star, Special Grand Cordon of the Order of Propitious Clouds (China)

Knight Grand Cross First Class of the Most Exalted Order of White Elephant (Thailand)

Caballero Grand Cross of the Order of Civil Merit (Spain)

Order of Liberator in the Grade of Grand Cordon (Venezuela)

National Order of Merit Carlos Manuel de Cespedes in the Grade of Grand Cross (Cuba)

National Order of Merit of Grand Cordon (Chile)

National Order of Merit of Grand Cordon (Ecuador)

Order of Merit for Distinguished Services in the Grade of Grand Cordon (Peru)

Order of Quetzal for Merit in the Grade of Grand Cordon (Guatemala)

Grand Cordon of the Order of George 1st (Greece)

Grand Cordon of the Order of Homayoun (Iran)

Grand Cordon of the Order of the Star of Jordan, 1st Class (Jordan)

Grand Cordon of the Order of Rafidean Civil, 1st Class (Iraq)

Grand Cordon de l'Ordre National du Cedre (Lebanon)

Grand Cross of the Order of Merit of Duarte, Sanchez y Mella, Plaque of Silver (Dominican Republic)

Etc.

PUBLICATIONS

Social Forces in English Literature

Introducing China

The Concept of *Jen*

Cultural Life in Ancient China (awarded 1943 medal of the Royal Society of Arts, London)

On Ancient Chinese Poetry (paper read before the Royal Asiatic Society, London)

And numerous articles in Chinese on English and American literature

HOBBIES

Chinese painting and calligraphy, hunting

THE BANQUET

Left to Right: LT. COL. WALTER ZWINSCHER, USAF(Ret) FOUNDING MEMBER; COL. A E. R. HOWARTH, USA, DIR. OF ACCOUNTING AND FINANCE; MAJOR GEN. W. P. FARNSWORTH, USAF, AUDITOR GENERAL; AMBASSADOR GEORGE K. C. YEH, REPUBLIC CHINA; BRIG. GEN. HERMAN NICKERSON, JR., USMC FISCAL DIRECTOR; MRS. E. R. KINGMAN, WIFE OF PRESIDENT WASHINGTON CHAPTER, CAPTAIN E. R. KINGMAN, USN; MR. JAMES F. WRIGHT, USMC DEPUTY FISCAL DIRECTOR.

Another successful Annual Convention was brought to a close ! !

INTEGRITY: PRIME INGREDIENT IN BUDGETARY PRACTICES

Miss H. E. Forshier, Assistant to Budget Officer, Bureau of Naval Personnel, Washington, D.C.

About The Author:

Member of American Society of Military Comptrollers, 21 years of Federal service in formulating, presenting, and executing budgets for various types of appropriations supporting a wide variety of operations and of programs.

The Thorndike Barnhart DICTIONARY defines integrity as: "1. honesty; sincerity; uprightness: a man of integrity. 2. wholeness; completeness: defend the integrity of one's country. 3. perfect condition; soundness." It is derived from the Latin word integritas, integer: a whole number as distinguished from a fraction or mixed number; thing complete in itself; something whole.

Each of us wish to be known as a man of integrity. On the other hand, the virtues required to sustain such a position are often slighted or are ignored. We treat as unimportant the compromises and the doing of things not quite right on the basis that everyone else is doing them and getting away with them—so, why not forget about integrity, just one of the old-fashioned morals. An outstanding example of this is the recent and continuing investigations into price-fixing activities. One needs only to read the newspaper accounts of the testimony of men in high positions to realize that these highly respected men condoned actions which they knew full well were morally wrong. Undoubtedly, prior to being faced with accusations and to admitting to the actions of price-fixing, each of these men would readily have been described by his company as a man of integrity—very high caliber. No impeachment of the integrity of the man was envisioned in his role as representative of the company. His methods were his own; he would do his best.

In Federal budgeting, the word integrity often appears in an official's description of the financial needs of his agency. One says that the budget was planned with integrity. Another vows that the budget estimates are the minimum commensurate with the national welfare and that the entire budget request was estimated with integrity. These statements are to be taken as fact by the listener, and are made to impress the reviewers with the serious consideration that has been given to the estimates.. In the academic world, instructors in Federal budgeting courses stress the need to establish a sincere feeling of trust and of understanding between the officials responsible for presenting the budget and the reviewing bodies, principally the Bureau of the Budget and the Congress: Integrity. Sans this atmosphere, the opinion is given that all budget estimates presented become suspect. When this happens, the going becomes very rough and it is well-nigh impossible to convince the committees that the amounts requested are truly the projected costs of the programs and that funds appropriated will be used for the purposes for which justified. In such situations, the atmosphere of trust and of understanding has to be built and nurtured from zero.

For the past several years, the reports on appropriations as released by the subcommittees of the Congressional Committees on Appropriations have been used as prods. The reports on the appropriations of the Department of Defense have urged the Department to conduct reviews of its operations and, where feasible, to consolidate functions to preclude costly duplication; to report its requirements and its plans realistically; to use the funds appropriated for the purposes for which they were justified; and to commune with the committees in an effort to preclude misunderstandings. The Congress recognizes that the Department has done much to tighten administrative control and to improve all of its operations. However, the reports continue to drive for still greater and more productive improvements. In the reports and in the testimony the committees of the Congress refer to legislation which, if in their judgment it should be used, would permit them to control, more actively than they are currently doing, the expenditures of public monies. The committees have indicated their awareness of the deleterious effect of such stringent actions and have implied their preference is to avoid such consequences if at all possible.

The imposition of the travel limitation in the Department of Defense Appropriation Act, 1961, was underscored and emphasized by a statement in the report of the subcommittee of the House Appropriations Committee on the Department of Defense Appropriation Bill, 1961. The statement was to the effect that the need for an expansion of limitations and other restrictions in the appropriation language or perhaps an eventual return to the line item approach to Congressional action on Defense programs may be avoided by:

1. Strict adherence by the Department (and its components) to the procedures already in force for control of funds appropriated.

2. Maintenance of faith between the committees (of the Congress) and the officials of the Department having expenditure jurisdiction, through respect of the integrity of the justifications presented in support of the budget.

During the past several years, the Madison Avenue approach (give the people what they want to see, to hear, and to believe) has been much in favor. Energies and talents are expended on preparing a package that is attractive and palliative. Often these tactics in budgetary practices produce documents and reports which tell nothing. There may be no intention to withhold information. But, emphasis is placed on items which will meet with favor and attention is diverted from any area which will generate embarrassing or undesired questions. A fertile method, almost too tempting to resist, appears at hand whereby arbritary items may be hidden and mal-estimates may be presented. In the instance of the items in favor, these suddenly appear to be excellent areas in which to stash additional funds which may be earmarked for reprograming as desired once the funds are appropriated. Unless integrity is one of the ingredients of the budgetary practices, the advantages of the Madison Avenue approach are dissipated by the situations created. These situations must eventually be explained. One of the pitfalls is that the same market places—the Bureau of the Budget and the Congress—must be approached each time a budget is presented. The reviewing personnel have long memories. The picture presented to them must be cohesive. Exhaustive studies and rigid reviews are the product of a history of mal-estimating and of

mal-executing practices. Reviewing bodies feel compelled to expend time, effort, money, and manpower to ferret out factual data which, it is believed, the agency is either unable to provide or is striving mightily to withhold.

It is of course feasible to approach the budget presentations with a Madison Avenue flair. However, in considering the budget document as a selling project, the best merchandising policies should be followed. The tags should all read properly and correctly. The claims made should be susceptible to substantiation if and when required. It is not necessary to stress and to emphasize the undesirable features but neither should these be hidden. If a question concerning the product is asked a straight forward answer—one that can be fully supported—should be made. The budget document must fulfill its mission as a media for placing an informative, intelligent financial report in the hands of the top Government officials who are responsible to the people for the overall economy of our Country.

Within the Department of the Navy, the format, the guidelines, and the program objectives are supplied to all components so that the composite budget submission may be assembled in a single pattern, presenting consistent goals for ease in review. Likewise, procedures and regulations for accounting for the funds are uniform. The contents of the budget submissions, the integrity of the reports of the operations during the operating year, of the plans for the current year operations, and of the projections for the budget year program objectives, and the meat of the presentations, the narrative justifications, are the responsibility of those officials charged with the effective formulation, presentation, and execution of the budget. It is these officials who set the standards and who establish the policies as to how the financial requirements for the various segments of the appropriations assigned to them will be presented and the budget will be executed. The top management people must look to the program managers, the budget analysts, and the appropriation accountants for integrity in the budgetary requests and reports.

The skillful and successful official knows that a factual report of his stewardship and an informative, intelligent budget, presented with integrity, cannot jeopardize the operations of the agency with which he is associated. He need not approach the hearing room with trepidation if the budget entrusted to him as a civil servant has been executed with due respect of the integrity of the budget presentations of the previous years. And, that any major reprograming and any diverting of funds to purposes other than those justified have been done with the knowledge and the consent of the highest reviewing echelon.

If factual reports of actual operations show a trend toward other than the goal anticipated by the reviewing agency, whether that agency is top management in the official's own organization or the Bureau of the Budget and the Congress, the presenting official has to have available to him exhaustive data justifying this. If such a trend is considered to be desirable, the data supplied must support this judgment. If there is every reason to expect there will be an eventual swing to the appropriate trend leading to the goal anticipated, data should be supplied to support this thinking. The definition of data is "things known or granted; facts." Wishful and hopeful thinking can not supplant facts.

A budget which is presented and executed with integrity requires skill, ingenuity, resourcefulness, and initiativeness on the part of the responsible officials. These abilities are demanded in great quantities. The sagacity of the officials is taxed to the maximum. A well presented and executed budget is the result of meeting an exciting challenge with integrity.

ACKNOWLEDGEMENT

The articles, "The Finance Center, U. S. Army" by Brig. General Frederick J. Kendall and "Gold on The Loose" by Major Floyd Coyne, F.C., printed in the June 1961 issue were printed with the permission of Captain W. A. Coleman, Managing Editor of the Army Finance Journal.

CORRECTION

The article "Standard Costs" by Stewart O. Hovland published in the June 1961 issue reads, on page 33 immediately under the caption "General Application of Standard Costs", The comparison of actual costs to bugeted cost has two distinct advantages. This should have read "two distinct disadvantages".

THE INTERNAL REVENUE SERVICE ADP SYSTEM

Robert L. Jack, Assistant Commissioner of Internal Revenue (Data Processing)

I would like to tell you about our new automatic data processing system—ADP for short. This system is not something that came into being overnight by merely pushing one of the buttons on the console of an electronic computer. Rather the system is the culmination of efforts that began many years ago to take advantage of the latest types of data processing equipment and techniques to meet the demands of the ever-growing workload of our tax system. It seems appropriate then, before explaining our new system, to go back a few years or so to trace this evolution.

The need for increased efficiency and productivity, although perhaps always present, became a matter of considerable urgency during and after World War II. Just a quick look at a few vital statistics will, I think, clearly demonstrate what we were up against. As you know, the population of the country has been increasing at a phenomenal rate. From 132 million people in 1940, the country grew in 1950 to 152 million people and the present population is in excess of 180 million. Now, more people mean more tax returns and more revenue collections. In 1940 there were only 8 million individual income tax returns. The total of all kinds of returns filed in that year was 19 million. By 1950 the number of individual income tax return filers reached 52 million and the total of all classes of returns rose to 89 million. Today we receive 61 million individual income tax returns. The total returns of all kinds is now in excess of 94 million. Revenue collections, which were only $5 billion in 1940 rose to $39 billion in 1950 and now are almost $95 billion. Still there is no end in sight to this growth. Current estimates are that some 111 million returns will be filed in 1970, and that by 1980 we will receive 135 million returns.
to activate another center in Lawrence, Massa-

One other fact which must be considered to get a true picture of the Service's paperwork problem is that, in addition to the 90 odd million tax returns, we receive approximately 340 million information reports on such things as wages —the familiar Form W-2—and on dividends and interest payments. Our total receipts of all kinds are now in the magnitude of some one-half billion per year. Then as you know, we generate a lot of paper. We send out 90 odd million blanks through the mail, 36 million refunds and millions of bills and other notices. At the time we first began to feel this impact, all of our field offices, including the very largest ones, were equipped with old fashioned, yes, even antiquated, listing, bookkeeping and other type machines which, even when new, were never designed for the mass type of processing which was necessary to get one year's work out of the way before the next filing season descended upon us.

Our first real venture into what most of us now regard as automation came about 1950 with the installation of punch card tabulating equipment in one of our large district offices. This was followed by similar installations in some of our other large districts. It might be helpful to mention at this time that our 62 districts throughout the country range in size from our smallest ones, employing about 100 permanent people, all the way up to the largest which has a work force of about 3,000 employees. It became increasingly clear within a few years that this decentralized approach did not meet the needs of the Service because the work volumes in most of our offices did not justify installation of this type of equipment. Other types of machines designed to increase productivity which were tried during this period were very useful on certain operations, but they too did not provide the answer to the problem.

Then came our first venture into the field of centralized processing. In 1955 a service center was activated on a pilot basis in Kansas City, Missouri, and processed just over one million of a new punch card Form 1040A return for the ten districts comprising the Omaha Region. This experiment was so successful that it was decided to activate another center in Lawrence, Massachusetts, the following year. This was followed the year after by a third center at Ogden, Utah. This program which began so modestly, with just over one million returns, increased at the

rate of about 10 million returns annually over the next five years. These three centers now process the bulk of the nation's individual income tax returns and also do a lot of other work which lends itself to machine processing. For example, 140 carloads of tax blanks are addressed and sent from these centers. As the work in the centers grew in volume, diversity and complexity, every advantage was taken of the latest technological advances in the computer field. Just last year the Service installed its first magnetic tape system in our Northeast Service Center in Lawrence, Massachusettts. Similar equipment is now being readied for use during the forthcoming income tax filing period in the Midwest Service Center at Kansas City and the Western Service Center at Ogden, Utah.

While all of this was going on, the Service was engaged in some long-range planning and research to find a still better system which would not only solve its paperwork problem but also enable us to do a better job of improving voluntary compliance with the tax laws and providing better service to the tax-paying public. During this period, our Planning and Research people, after concluding that the system was in need of major overall, began the Herculean task of designing an entirely new system to meet these objectives. Inevitably, this involved the determination of whether it would be feasible to employ the latest types of high-speed electronic equipment. Their studies indicated that it was not only feasible but, indeed, highly desirable for the Service to move in this direction as rapidly as possible.

In January, 1960 one of the most detailed sets of specifications ever compiled—this book was literally as big as a telephone directory for a large metropolitan city—was turned over by the Service to some 35 to 40 manufacturers who had expressed a desire to study the specifications and consider whether they wished to submit proposals. The manufacturers were given t h r e e months in which to respond. By the deadline date, in April 1960, six of the manufacturers submitted proposals which, generally speaking, were even more voluminous than the Service's book of specifications. Over the next three months these proposals were reviewed and evaluated at several levels within the Service and the Treasury Department. This painstaking review had two objectives. We wanted to be absolutely sure that we would have a system that would meet all of our requirements and to give the highest possible degree of assurance that the manufacturers, who had gone to such expense in developing their proposals, would receive scrupulously impartial and fair treatment. In the middle of July, 1960 announcement was made of the award of the contract to the International Business Machines Corporation.

The first hurdle had been taken. Now we began the laborious and time-consuming work of transforming a very detailed blueprint into a finished product. Generally speaking, the plan, on which I will comment in more detail later on, envisioned a system under which data would flow from the taxpayers to nine regional service centers where it would be recorded on punched cards, converted to magnetic tape, and then fed into a national computer center. It soon became apparent that it would be almost impossible to install this nation-wide network all at once. It was therefore decided at an early stage to proceed on a pilot basis and to establish the National Computer Center and one regional service center in the first year. The remaining regional service centers, including the conversion of the three centers to the new system, were scheduled for activation at the rate of two or three a year over the next few years. As you all know, Martinsburg, West Virginia, was selected as the site of the National Computer Center, and the first regional service center was established in Atlanta, Georgia, to service seven states in the southeastern section of the country.

It was also determined at an early stage that it would not be wise to try to take on all of the workload in the pilot center—and, for that matter, in the other centers—in the first year of operation. The work will be phased into the centers over a three-year cycle. We will begin, in each region, with selected business returns, including corporation income tax returns, excise tax returns and social security and withholding tax returns. The second year the centers will take on the biggest part of the job, that is, selected individual income tax returns. The balance of the work will go into each center in the third year.

Now you might well ask what makes this new system so different from the one we have today, and just how it will strengthen tax administration and increase service to the taxpaying public. It is true, of course, that we are already

using some pretty sophisticated electronic equipment. The simple fact of the matter is, however, that each return that is put through the present system is a transaction, so to speak, unto itself. The return is generally processed without regard to other accounts of the same taxpayer. With the movement of taxpayers between districts, we have lacked a truly integrated system for unifying the accounts of taxpayers wherever they might live or work. The present system, moreover, does not afford us another ability we sorely need, that is, the facility to use once recorded information over and over for different purposes.

The basic ingredient of the new system is the master file of taxpayer accounts which will be maintained at the National Computer Center in Martinsburg, West Virginia. This master file will enable us to consolidate in one place all of the different transactions pertaining to each taxpayer. Actually we will have two master files—one for business, the other for individuals with the system having the ability to cross refer one to the other. There is nothing revolutionary about this idea, of course, because other nations have maintained such a file for a long time. Although we can't, therefore, lay claim to be pioneering in this field, I must admit in all candor that there has been nothing in the history of tax administration which can begin to compare in magnitude with the task we have at hand. The ADP system makes this venture practicable by overcoming the two obstacles which have blocked our way in the past—volume and the lack of a fast enough medium to get the job done timely and economically.

A little reel of magnetic tape is one of the media that will enable us to solve many of these problems. The capacity of a tape recording data is truly fantastic. On a single reel, we will be able to record the accounts of 116 thousand taxpayers. This is the equivalent of several hundred thousand punch cards. Stacked one on top of the other the punch card equivalent of a selected reel of tape would be about 400 feet tall, four-fifths of the way up the Washington Monument. When the system is fully developed we will have some 78 million accounts on this type of tape—72 million individual accounts and 6 million business accounts. This will require about 400 miles of tape, roughly the distance between Washington and Boston.

Let me not mislead you, however, by giving you the impression that we are counting on the marvels of electronics to solve all of these problems. The machines have some of the same failings as human beings. One of these is the difficulty of identifying a particular person or object in the absence of a common denominator. Over the years, one of the crying needs of the tax system has been for some uniform method of identifying taxpayers in our records. Identification by name and address has proved to be highly inadequate, because of similarities in names. On top of that, of course, are name changes through marriage and divorce. There are almost 2 million Americans named Smith. There are even two Robert Lee Jacks in my own community. As you can see from this, we could not really expect the machines to do a much better job than we have by manual methods unless we were to give them some means of identifying each taxpayer. So we come face to face with the need for a numeric system. The Congress recognized this by enacting legislation making it mandatory for taxpayers to obtain and report permanent tax account numbers on the returns and other documents they file with the Service.

We are already setting in motion the machinery for fulfilling the commitment we made to the Congressional committees that this numbering system would be put into effect with the least possible inconvenience to the public. Over the past 25 years virtually all of the Nation's employers have had employer identification numbers for use on social security and withholding tax returns. These numbers will be continued in use under the ADP system. The small segment not now having such numbers will have numbers assigned to them in due course and without inconvenience.

The procedure for assigning account numbers to individuals will also be geared to get the job done without burdening the taxpayers with a lot of red tape. This will be possible because of the decision to use social security numbers for tax, as well as social security, purposes. Practically speaking this means that a very high percentage of taxpayers, which may run as high as 85 percent, will feel no effect at all because they already have social security numbers and have been showing them on their returns for some time now. Now what has to be done by the taxpayers who don't have social security numbers? Here, also, we are doing everything we possibly can to avoid any inconvenience to them in obtaining their tax account numbers. The first

returns to which the new requirement for showing the number will apply are the Declarations of Estimated Tax for the Tax Year 1962 which are due to be filed during the next year, in most cases by April 15. We expect that some of these forms will not show the social security number either because the taxpayer does not have one or, if he does, he no longer has use for one and has lost or misplaced his card. Arrangements are being made to send these taxpayers a notice explaining the need and requirement for obtaining either a new or duplicate number, a copy of the application blank, and a pre-addressed envelope for returning the completed application to us. Then, in due course, the taxpayer will receive his account number card through the mail. I should like to emphasize that the numbers so obtained are primarily tax account numbers. If, however, at some future time the taxpayer should need a social security number, the number assigned to him for this tax purpose can also be used as a social security number.

Perhaps now I had better tell you a little more about how the system will work. The taxpayer will continue to file his return just as he always has with the District Director in his home community. After checking the returns for such things as name and address, account number, and signature, and depositing any money that may accompany the returns in the bank, the district office will transmit the returns to the regional service center. The regional service center will transcribe the information from the returns to punch cards and convert the cards to magnetic tape. As a part of this conversion process, the taxpayers' arithmetic will be verified. The tape will then be shipped to the National Computer Center.

At Martinsburg these incoming transaction tapes will be run against the master file which will have been established prior to this time. This Martinsburg installation will be quite different from most Government facilities in that it will produce no paper. After the master file has been updated, the Center will produce various output tapes. One of these will represent the refunds which are due some 36 million Americans each year. These tapes will be sent directly to the disbursing office where they will serve as input to the high-speed electronic equipment used by that office in preparing and issuing refund checks. The other output tapes will be returned to the regional service centers for preparation of bills, inquiry letters, other notices to taxpayers, lists of returns to be pulled by the district offices for various purposes, etc. All of these forms will be prepared on high-speed printers which print 600 lines per minute. Taxpayers receiving these bills, inquiries and other notices will pay the bills or supply the requested information to their own district offices. This will set a new cycle in motion—from the district office, to the regional service center, to the computer center, back to the regional service center, etc.

Now, what is the system going to do for the Service and the taxpayers? Earlier we discussed the general objectives of the system, two of which directly related to improving voluntary compliance through better tax enforcement and to providing better service to the taxpaying public. Let's be a little more specific as to just what will be accomplished. The system will, for example,

1. Provide a systematic check on the failure of individuals or business entities to file tax returns,
2. Facilitate the mathematical verification of returns by doing this work almost as a by-product of converting the information from cards to tape,
3. Determine, prior to refund, whether a given taxpayer owes the Government taxes from a prior year,
4. Detect duplicate claims for refund, some of which are made through inadvertence and others with fraudulent intention,
5. Improve our ability to match data reported on information returns on such things as wages, dividends, and interest with corresponding data on returns,
6. Enable us to determine any taxpayer's current tax status at any given point in time,
7. Enable us to do a better job of determining which returns should be selected for audit, and
8. Give us better source data for statistics of income and management information reports.

So much for the enforcement side. This brings me to the question of what is the system going to do for you and me as taxpayers? Believe it or not, the system holds out several bene-

fits to us, some of them very tangible and others somewhat less tangible but none the less real. Let me give you some examples of the benefits to taxpayers—

1. The improved enforcement I just mentioned will carry with it increased revenue. This means that the honest taxpayer will have added assurance that he is paying only his own fair share of the tax burden.

2. The master file will assure proper application of taxpayer payments or credits with a minimum of erroneous billings. Here, the taxpayer account number will provide a double check in making entries to accounts.

3. The capacity and memory of the system will be beneficial to taxpayers who may forget prior year credits or who do not take full advantage of their rights under the laws, such as loss carry-overs or extra allowances for the aged.

4. The master file will eliminate unnecessary repetitive annual taxpayer contacts for explanations of items previously accepted.

5. The system will permit the crediting of undeliverable refund checks to the accounts of some half million people who move each year without leaving forwarding addresses.

6. Large businesses using electronic equipment may be able to report interest, dividend, and wage information on magnetic tape and thereby save themselves considerable paperwork.

This last possibility will be covered in more detail at a later date. I mentioned earlier that we have almost two million Americans named Smith. One of them is Mr. William Smith, Assistant Commissioner for Planning and Research. This particular Bill Smith, for the record, is number 103-05-3163. Incidentally Mr. Smith still has his original social security card which was issued to him on July 23, 1937.

So far, I have mentioned the system in terms of blueprints and the future. Just where do we stand at this point in time. Here in the National Office our main job right now is to complete the writing of the instructions to tell the machines how to process the business master file. This work is being done for the most part by a large number of young men and women virtually brand new to electronics who were recruited from within our Service and put through a most intensive training program.

The pilot service center which is housed in temporary quarters in downtown Atlanta began establishing the identity portion of the Region's business master file last July and has been shipping tapes to the National Computer Center for the past several weeks. Construction of permanent quarters for the center is already underway and is scheduled for completion the middle of next year. The Center will be housed in a one-story building located in the suburbs of Atlanta.

The Computer Center at Martinsburg was constructed in a little over 3 months. Even before it had been completed the computer room had been finished and the computer installed and tested. To illustrate the tight schedule on which we had been operating all along, the air conditioning was turned on in the computer room on Saturday, September 2, and the computer moved in on Tuesday, September 5. This allowed the bare minimum of time needed to eliminate the dust and condition the air to the proper temperature and humidity. The Center is now processing the identity tapes being received from Atlanta. Some 500 thousand business taxpayers are having their accounts sorted into numerical or account number order. This operation is pretty well along and I think we can now say with some confidence that we will be "in business" the first of next year when Atlanta begins to ship the first transaction tapes.

With the major part of the work connected with the business cycle behind us, our analysts are already turning their efforts toward the design of the detailed system for the individual master file which goes into operation in Atlanta January 1, 1963.

Announcement has been made that the second regional service center will be activated January 1, 1962. This center will service the Philadelphia Region and will be located in that city. When we say the center will be activated on that date, we do not mean that it will actually begin processing business returns. This will not occur until one year later on January 1, 1963. It takes a whole year to do the preplanning and other make-ready work. The man who will direct this

center has been undergoing training in one of our other centers for the past year. A good many other people have to be recruited and trained to staff the center. In the first year of actual operation the service center will have only a few hundred employees but it will build up over a period of time to perhaps as many as 1800 employees. This same thing is true, of course, of Atlanta and the other centers.

In addition to mechanizing most of the work, a substantial portion of the manual work now being performed in the district offices will be transferred to the service centers. About half of the accounting and processing positions in the district offices—some 6,000 positions in all—will be affected. We are doing everything reasonably possible to install the ADP system with an absolute minimum of adverse effect on our people. This will involve a great many reassignments and transfer to other jobs in the district offices and service centers and will necessitate extensive retraining. Chairman Macy of the Civil Service Commission is working very closely with us and we are confident that we will be able to realize this objective.

The organization adjustments have not been exclusively in the field offices. At the National Office level we have had a three-phase organizational plan for meeting the growing needs of the ADP program. We now have an organization which gives full recognition to the importance of ADP and which provides the full-time attention and direction it must have.

I should like before closing to leave you with one final thought about this new program. Commissioner Caplin has given assurance that ADP is not going to dehumanize the Internal Revenue Service and pit the individual taxpayer against a giant, impersonal monster hundreds of miles from his home who deals only with numbers. The Service will continue to offer local assistance, telephone service, direct mail communication, and all the other services now offered to taxpayers with questions or problems. The taxpayer will notice very little difference in the way his business with the Internal Revenue Service is handled. Remember that the machines are simply tools—tools that will help strengthen the tax system and give the individual taxpayer added assurance that he is paying only his fair share of the tax burden.

I hope this presentation will give you a better understanding of what the Internal Revenue Service is trying to do by installing the ADP system and that you will accept the system as one in which the interests of the Government and the individual taxpayer are not separate and distinct but rather one and the same. You can help us by having this understanding and by filling in your returns just as accurately and completely as you can.

CONVENTION CLOSE UP

L to R: MEET THE NATIONAL EDITOR AND MRS. KENNETH E. DUNLAP AND LT. COL. WALTER ZWINSCHER, FOUNDING MEMBER.

THE APPLICATION OF ECONOMIC ANALYSIS TO THE PROBLEMS OF NATIONAL DEFENSE: A DISCUSSION AND REVIEW OF *THE ECONOMICS OF DEFENSE IN THE NUCLEAR AGE*, BY CHARLES J. HITCH AND ROLAND N. McKEAN

By Dr. Bennett Finler, Office of the Comptroller, Bureau of Naval Weapons

Introduction

We present a review of *The Economics of Defense in the Nuclear Age* by Charles J. Hitch and Roland N. McKean. This rather hefty and scholarly volume has lately become something of a best seller in Defense circles—in BuWeps, each Assistant Chief, as well as the Library, has a copy. It may be that its popularity is not unrelated to Mr. Hitch's appointment as Assistant Secretary of Defense (Comptroller).

This book, or the review published here for that matter, is far from light reading— a complex subject made simple is invariably oversimplified—but the close attention required for understanding will be well-rewarded. An appreciation of the complexities of Defense planning and recent analytical approaches are always valuable to all levels of Defense management. But the greatest interest of the book lies, perhaps, in the indications of future developments that it contains. For these reasons, this review should find an appreciative audience and will, if our readers react as we did, send them scurrying for the book itself.

—I—

With nearly ten percent of national output going into defense, the limitation of economic analysis to the non-defense sector of the economy would leave, and perhaps has left, serious gaps in the evaluation of the national effort. It is true that public spending and investment have generally been viewed as different from private enterprise, even though both use and often compete for the same resources of manpower and material. The defense effort in particular has been viewed as a passing phenomenon of short-run emergencies or temporary crises, its treatment in war and peace being characteristically a matter of "feast or famine". Now that enormous military budgets in peacetime are the normal state, national defense should be susceptible of economic analysis in historical, comparative and quantitative terms, such as are employed by other scientific disciplines concerned with military affairs.

For that purpose, the first requirement would presumably be a text to bridge the analytic gap between the civilian and military sectors of the economy. There is the further implication that, while not every economist will be able to qualify as a military expert, all military expertise in the foreseeable future is going to depend for its decision-making to a considerable extent on economic considerations. This is one conclusion to be drawn from a reading of *The Economics of Defense in the Nuclear Age* by Charles J. Hitch and Roland N. McKean.

—II—

The authors state the economic purpose of defense administration to be the efficient allocation and use of resources for national security. "Economy", or the economical use of resources, is therefore to be considered as synonymous with efficiency, as producing the most effective weapons within the capacity of the economy, the state of the arts and the statutory and budgetary authorizations. This is also considered equivalent to the businessman's premise of minimizing his costs. From these two postulates is drawn the inference that there is, or at any rate there should be, no conflict between military and economic considerations for defense purposes.

Therefore, the most effective military peacetime strategy, as defined by the available technology, is to attain a given objective with the least cost—and not, as is frequently alleged, without regard to cost. The contribution required of economic analysis is to furnish methods and data needed for decisions between alternative courses of action; e.g., by making systematic quantitative comparisons thereof.

Specifically, economic and therefore budgetary limitations are a function of the relevant time period allowed for a decision. The shorter

the period, the less significant the changes that can be made in decisions concerning resources. But given enough time, it is possible to expand, alter and substitute almost any resource, including technology and manpower.

Since both long-range and short-range military planning must incorporate resource availability and use, the analysis of alternative solutions of military-type projects, including both their benefits and costs, has been undertaken in a set of techniques termed "operations research". The immediate limitations on current operations depend on the available resources, such as men and material. However, the continuing and long-term frame of reference does not impose any limit on any particular resource but is rather a general monetary ceiling, measured in dollar costs, and related to the nation's productive capacity.

— III —

It is the problem of effective budget analysis to give more attention to program end-products, and less to detailed expenditure-objects. Judgments concerning budget requests should differentiate between programs that perform the ultimate tasks, and those objects of expenditure which make performance possible. Current budget classifications, which provide separate funding for military personnel, maintenance and operations, procurement, military construction, and research and development, are directed to expenditure-objects. To develop useful indicators of program performance on a comprehensive scale, it is necessary to cross over and combine the various appropriations. In this way alone would it be possible to show the different combinations of capabilities and possibilities, in quantitative terms, of all contingencies such as cold war as against shooting war; conventional as against thermonuclear weapons; limited brushfire as against general conflagration. It would also incorporate the range of probabilities of enemy reactions to each action on our part. This is the "game" aspect of budget determination, in which not only do each nation's decisions depend on the actions of the opponent, but its very survival may depend on its success in anticipating them.

Each program increment therefore does not have one particular outcome and a certain unique set of gains, but rather a range of possible results. If the implications are pursued further, budget determinations are related to and will presumably influence an opponent's productive capacity and war potential. In a still broader context, these decisions relate to negotiation for weapon limitation and disarmament on the one hand and the alternative strategies involved in deterrence, retaliation, destruction, recuperation and survival on the other.

Present budget formats and program indicators do not measure these influences. New analytical tools are needed to associate these "benefit" considerations with program costs. The resulting data should permit more informed selection among alternative program levels, somewhat as a factory owner decides whether investment in a new process will give him a better product and increase his sales and profit margin.

Military budget decisions also have major repercussions on the whole economy. From each program there flows a series of benefits as well as costs, but the effects of defense spending, both direct and indirect, cannot be computed precisely except, presumably, after the fact. It is important to note, however, that defense spending is not ordinarily a subtraction from non-defense spending as has often been assumed in the past, but is likely to increase rather than lower national output and income unless there is already full use of the available resources, or in case a sudden crisis requires an unforseen reallocation of resources. It is therefore important to consider the potential of budget decisions for both inflationary and deflationary effect. Fiscal and monetary policy should be geared to defense needs rather than the other way around. Budget decisions can provide automatic stabilization devices and spill-over effects. Considering the potential effects of budget decisions on prices, resource allocations, commercial competition, and industrial growth, military budgeters must also take account of the possible need for, while avoiding as much as possible, emergency controls over prices and output.

— IV —

The discussion up to this point has been concerned with the top level of decisions, such as would determine the size of the total defense budget in terms of the resources to be made available for defense purposes. Once these determinations have been made, the next level of

those resources. Economic theory, concerned particularly with efficient resource use, has not been applied until recently to military expenditures. Lacking the normal profit motive of private business, for optimum use of resources, it becomes necessary to explore alternative means of achieving similar results.

From modern economic analysis, it is possible to borrow technical devices for systematic quantitative analysis of military problems. One such technique of partial equilibrium analysis, known as the "marginal rate of substitution", is used in plotting the rationale of consumer's choice. This method was developed to replace the traditional marginal utility principle, which purported to chart the curve of diminishing satisfaction of a single good or groups of goods.

The application of this method to military problems takes the following form. The first example demonstrates the allocation of a single input (a budget program) to produce two outputs: the procurement of the best combination of a strategic bombing force and an air defense force. The optimal use of the available funds is determined by two series of curves plotted on a chart, the X-axis of which is the defense force, measuring its effectiveness by "defense kill potential", and the Y-axis of which is the bombing force, measuring its effectiveness by "target destruction potential". On the X-axis is marked off the amount of "defense kill potential" that could be achieved by spending the entire budget on air defense and on the Y-axis the comparable maximum amount of "target destruction potential". These two points are then connected by the "production-possibility curve representing all possible maximum combinations of target destruction and kill potential which can be produced for the given allocation of dollars. This curve is concave to the origin because of the phenomenon of diminishing returns. This means that the further you go toward the extreme limits, the more effort you must expend for better results (roughly similar to the difference between knocking over the first and last duckpins). The other half of the problem is to chart a series of "indifference" curves or "isoquants", each curve representing how much a particular budget will buy of the necessary combination of defense and attack potential. These curves are typically convex to the origin, meaning that the more of one good (in this case, offense) you give up, the less willing you are to judgments involves the most efficient use of sacrifice still more and therefore the larger the increment of the other good (defense) you demand in compensation. (In similar terms, the purchaser of an auto is choosing, at each price level, between various combinations of appearance and utility).

The optimal choice is the point where an indifference curve exactly touches the production-possibility curve. This point of "tangency" means that you cannot improve your position (that is, move to a higher indifference curve of preference combinations) by any other production-allocation of the budgeted dollars.

While the above example related one input (budget) to two outputs, the same method can be used for two or more inputs against a single output—or several outputs. Thus, in order to determine what combination of bombers and bombs can be provided from a given budget allocation (the relative cost or exchange value of the two being known) that would destroy the most targets, two series of curves are again required. The first will show the combinations of bombers and bombs which can be procured with the given budget. The second will show the isoquants representing the various levels of expected target destruction — the best tactical employment being assumed for the combination of bombs and bombers represented by each point. The optimal combination of bombers and bombs is shown by the intersection (tangency) of the procurement curve with the highest target isoquant attainable.

— V —

Of course, the problem of economic choice in military planning is not merely a matter of quantitative analysis: e.g., of requirements, priorities, and costs. It is rather an evaluation against the applicable criteria of the alternative objectives and the cost of attaining them. At least five distinct areas are involved in the analysis: first, the objectives (e.g., deterrence, retaliation, total destruction); second, the alternative solutions (i.e., the various possible combinations or systems of manpower, weapons, tactics); third, the costs or resources used; fourth, the model or models (i.e., abstract representations of significant relationships and predictions thereof); and fifth, the criterion in terms of which the solution is to be measured, this being defined in aggregative but specific terms (e.g.,

the destructive power that would be sufficient to deter any enemy from attack).

The criterion or test of the alternative solution chosen is the "pay-off", viewed as the excess of benefit derived over cost expended. It will thus be understood how the determination of this criterion requires the rigorous examination of both sides of the question—both benefits and costs—and thus demands a much more sophisticated preparation than the usual listing of "requirements" and "priorities", which do not help to determine either how large the budget should be or how a given budget should be allocated.

Maximization of the defense effort requires by definition that, given the size of the defense budget, the available resources be allocated so efficiently that no basic capability can be increased without decreasing another. The analyst's problem is to devise an explicit model for each relevant area. While he does not measure either the probability or costs of all-out war (since the answer to those questions presumably has already been provided in terms of the size of the total defense budget), he should be able to calculate comparative costs of various methods of attack and defense in relation to the budget plan. This is to be achieved by "sub-optimization" of decisions at each level, going down the scale of military command and civilian responsibility.

"Sub-optimization" may be interpreted as requiring that each action be considered in terms of a reasoned and systematically justified choice between various alternatives. Starting with the total defense budget as the independent variable, then every subsequent decision is the result of plotting the variables relevant to the particular problem against the independent variable of the higher level "optimization" decision. If the relationship between equipment, material, manpower and operations is viewed in this context, it will readily be understood that the budgets for procurement, maintenance and operation, and military personnel are functionally interrelated, and are necessarily to be integrated with operational task decisions. By way of contrast, the effects of research decisions and projects are more difficult to forecast as suboptimizations in relation to operational decisions.

To illustrate the application of this type of analysis, a DOD decision for a long-term task may require sub-optimization in terms of establishing the model for the best international transport fleet, where the conditions for the airlift are given (i.e., air route channels, types of aircraft from which the choice is to be made, amount of cargo and passengers, etc.). The technique for determining the least-cost fleet is by seeking points of tangency between the input exchange-curves and output-isoquats, as discussed in Section IV above. By this method, the models show how the transport aircraft types can be "traded" for each other while keeping the quantity of output constant, so as to produce the highest benefits at the lowest cost over the relevant (10-year) time period. The ensuing computational process thereupon yields the least-cost solution for a series of fleets based on tables of productivity ratios, showing the comparative load carried per fleet hour by each pair of aircraft being compared, choosing from among one old and three hypothetical new transport types for each channel assignment. The least-cost solution, as is to be expected, provides for the ultimate replacement of the old aircraft type. However, if the emphasis is on a budgetary rule for minimizing initial procurement costs alone, the old aircraft type will not be phased out.

— VI —

Whether a particular solution is optimal depends on the applicable criterion, ordinarily the maximization of some function in terms of the available resources. To illustrate the danger of oversimplification of the best choice among alternatives, several criterion errors are cited. For example, it is impossible simultaneously to maximize gain (i.e., military effectiveness) and minimize cost—although this is often feasible in non-military functions. From this it may be inferred that a criterion of "maximum effectiveness per dollar of cost" is unsatisfactory if the result is less than the requirement; it may be necessary, for example, to pay twice as much for an item only 25 percent more effective. Alternatively, the measure of cost may be erroneous (apart from the fallacies inherent in long-run total dollar criteria). One example would be not taking full account of all the alternative or substitute possibilities (e.g., purchasing an item as against manufacturing it yourself), common costs, multiple-purpose projects, and total versus incremental costs. Moreover, excepting only the conditions of actual combat, there is usually not merely a single choice but a range

of choices among effectiveness schedules, budget sizes and tasks.

The military problem is even further complicated by costs, objectives and effects that cannot be measured in money by a quantitative method, although the decision-maker may subjectively take them into account. Among them are political relationships, foreign alliances, and morale considerations affecting the civil population, military recruitment, and relations abroad. Other incommensurable and intangible elements entering somehow into the military calculus are: the degree of missile accuracy attainable; the choice of prospective state-of-the-art innovations to encourage and subsidize; the possibility of having to face a state of hostilities other than the type of war that had been planned for (e.g., Laos); uncertainty; most important of all the design of systems adaptable to critical contingencies and uncertainties.

Most indeterminate of all is the enemy's military capability and range of possible reactions — presumably the primary independent variable of any analysis. A newly devised technique for dealing with this range of indeterminacy has been developed as "game theory". As a conceptual framework for military analysis, formal game theory is, however, seriously deficient in that, even with the aid of computers, its solutions are unable to cope with the infinite complexities of international antagonisms. The most effectively programmed computer can still play only a rudimentary game of chess. Moreover, wars are not "two-person zero-sum" games which merely require two opponents, each with a consistent and unambiguous set of values and each playing the same game with the same set of rules and scoring, so that the gain of one side is the loss of the other. Operational experimentation in war games can therefore provide only partial tests of simulated problems and imaginary solutions. Nevertheless, this type of analysis is an indispensable method of probing for weaknesses in our military posture—such as the misleading criterion that a large enough offensive force will automatically provide deterrence.

— VII —

While the primary responsibility of the military services is the operation of today's forces, systematic quantitative analysis of alternative solutions can only be concerned with future costs and benefits. All significant economic costs are opportunity costs, meaning that the use of assets (costs) for the particular programs chosen will ordinarily require foregoing their use for other programs. Each solution will necessarily involve varying the shape (or timing) as well as the size of the cost stream required. This is analogous to a firm's decisions concerning investment in new plant and equipment. The interest rate a firm will pay for new capital measures its opportunity cost which is termed the schedule of productivity and called by Kevnes the "marginal efficiency of capital". This rate is affected by the uncertainty of a long-range or risky venture, from which the future net gains will be more heavily discounted than the short-run returns from a safer enterprise.

In comparing alternative military systems, there is a similar risk of an investment in a program or weapon not paying off, due to miscalculation of contingencies, such as technical revisions, strategic reversals, and reassessment of the opponent's capabilities and intentions—or disarmament or the premature outbreak of toal war. For example, investment in an airlift system will yield an early, certain and, therefore, low rate of return; while a billion-dollar investment in advanced weapons has so uncertain an outcome as to demand a high return. Discount rates as high as 15 to 20 percent may therefore be considered appropriate only for systems with high risks of obsolescence. This is comparable to an auto manufacturer's constant reinvestment in new models where, in spite of built-in obsolescence, popular success will yield a high return while failure can be a catastrophe.

This type of military analysis is largely hypothetical, since all Government investments are on a cash basis and constitute "sunk" costs thereby precluding the assignment of any value to future outputs. The discount rate or opportunity cost of a weapons system which requires expended allocation of resources for defense purposes may be the sacrifice of the alternative choice of investment in non-defense purposes. Therefore, the marginal rate of return on each Government investment is presumably the marginal return on investment in the private sector—although the technique for equating the two has not been devised. However, while the thesis that an additional dollar spent on a weapon is as important as a dollar spent on private investment or saved for future consumption, the choice between two alternative weapons must be in terms of a profitable "pay-off". In order

to show properly the "break-even" rate of discount over time of two systems, the calculations should include operating costs, depreciation, interest and other business expense—provided the appropriate economic model can be devised.

— VIII —

In suggesting institutional improvements to promote economic efficiency, the chief concern here is with military problems, explicitly excluding from this discussion such administrative-type reforms as were suggested by the Hoover Commission. Chief among the proposals are: (1) to simulate market conditions and price mechanisms by authorizing considerable autonomy to individual military commanders to purchase labor and material; (2) to expand and improve operation of stock and industrial funds; (3) to contract out to private business many Government functions, such as aircraft maintenance for support purposes, and even the technical management of a development program.

For improvement of budget and accounting techniques, in addition to the replacement of object-expenditures with end-product indicators of performance, recommendations are offered in general terms for accelerating the budget process, and specifically for: the costing of alternative programs, the accumulation of program costs over longer periods than a single fiscal year, and the projection of cost-cutting improvements of a capital nature over the entire period of their productivity. Decentralization of decision-making would make better use of the private economy with its competitive market and price machinery for sub-optimization of problem solutions and to stimulate a greater degree of market-type competition in intra-service bargaining. The current emphasis on maximization of budget (inputs or costs) should be replaced by maximization of capability (outputs or benefits).

Since a primary thesis of this new approach to defense economics is the need for re-examination of the whole spectrum of security problems, a similar approach is recommended to such special areas as research, logistics, foreign alliance, economic warfare, disarmament, civil defense and deterrence policies. In each area, it is essential to dismiss any hope for a perfect or single-track solution. Security cannot be achieved by absolute decisions but by pluralistic experiment. The research program for example, must subordinate its concern with the problem of allocating resources efficiently within a given technology to the critical task of expanding the boundaries of the technology. The chances of success will be considerably enhanced by such measures as: decentralization of efforts through the military, academic, scientific and industrial establishment; multiple-service competition and rivalry; and judgment of performance by evaluating the results achieved, and using economic models for setting criteria of efficiency—in place of direct inspection and supervision of project and contract performance.

Finally, in choosing policies for deterrence, the grim reality must be recognized that our best effort today may not be the best of which we are capable and is certainly inadequate to meet the challenge that may develop tomorrow and the day after. Not only is the future uncertain. We must also face the unknown.

DON'T FAIL

TO SEND IN

ANY CHANGE OF ADDRESS

THE ROLE OF THE MILITARY COMPTROLLER IN DEFENSE MANAGEMENT

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The views expressed in this paper are not necessarily those of the Corporation.

The function of comptroller in the Military Departments is frequently misunderstood, and procedures used to implement this function are sometimes confusing to observers.

I do not assume that I can eliminate all of the misunderstanding and confusion. But I do want to attack what I consider the root of the difficulty.

Let me begin by observing that in principle, the management job in the Department of Defense resembles the management job in large private business organizations. This is not always readily apparent. It is much too easy to become confused by differences in vocabulary.

Beneath the surface, nevertheless, there are significant parallels. The military "enemy" is the private manufacturer's "competitor." Military tactics can be compared with industry's production and marketing methods. Weapon systems may be related to commercial product systems in the private economy. Basically, the fundamental task of both Defense Department management and the management of private corporations is allocation of resources to meet approved objectives.

In private industry, these objectives are characterized in terms of profit, return on investment, or share of market. In the Defense Department, while objectives may not be as clear-cut and as easy to measure, they nevertheless exist and are formulated in terms of national security objectives.

I suggest that we can clear the air by looking at the Defense Department's role in national security as a management job calling for essentially management type decisions. In simplest terms, top management is responsible for allocating available resources to meet national security objectives. This carries with it a responsibility for implementing determinations and evaluating operating results.

The tremendous size of the Military Departments and the complexity, variety, and uncertainties involved in the tasks to be accomplished make this management problem a formidable one. These considerations, along with the dynamic evolution of new military technology, suggest that innovation is required in some basic management tools and in the manner of their use. It is against this background that I propose to discuss the military comptroller's role and to identify the comptroller in the programming process.

In Defense, as in private industry, this role has two major parts: *First* — to assure the availability of information required by top management to make basic resource allocation decisions. Such information must be organized to illuminate the critical decision problems and facilitate their analysis. *Second* — to design and to operate a performance reporting system which permits a continuing evaluation of the implementation of national security decisions by operating management.

Performance of both parts of this role demands from the comptroller a clear understanding of the terms in which totp management can effectively make national security decisions as well as the terms in which operating management can effectively implement those decisions. Only this undrestanding permits the comptroller to design information systems which serve both planning and operating requirements.

A short digression into semantics will be helpful at this point. The word "program" is one of the hardest-worked, if not overworked, terms in Washington's language of communication. Like all terms in active use, it is employed in a variety of settings and has come to mean different things to different people. I follow Humpty-Dumpty in *Alice in Wonderlan* who, queried as to what a word meant, replied, "when I use a word, it means just what I choose it to mean — neither more nor less." And what I choose this word "program" to mean is an integrated activity—a combination of men, equipment, installations and supplies, whose effectiveness in some way may be related to national

security objectives. Examples are B-52 units, fleet ballistic missile (POLARIS) units, and infantry units, including all the equipment, men, facilities, supplies, and support required to make them effective military forces.

This concept is based on the fact that top management finds it useful to make its national security decisions in terms of the basic means or instrumentalities for accomplishing specified military tasks. It wants to allocate resources—for example, budget dollars—through a process of evaluating and choosing among alternative programs. Another way of putting this would be to call the "program" the primary unit for management planning and decision making at the policy level.*

This is a new concept in national security management. Its execution creates a requirement for a different kind of information for the comptroller. In the course of fulfilling his assignment, he will have to resolve a number of problems related to re-orienting existing information systems to meet the requirements of planning at one end of the management spectrum and operations at the other. In meeting this challenge, misunderstanding and confusion may be expected. It is frequently difficult for those who contribute to or draw from the information stream to grasp its dual function, or even to recognize that the comptroller function is *not* itself a decision-making function but rather exists to facilitate planning and decisions, on one side, and assessment of performance, on the other.

Until recently in the Department of Defense, financial and budgetary information for both planning and operating purposes have been organized primarily in terms of a functional activity structure: personnel, procurement, construction, operations and maintenance, research and development, etc. Information organized in this way does not permit the effective relationing of dollars to either national security policy objectives of programs (as defined above) phased through the years of their life. The emphasis has been on short-term fiscal accountability and control. Also, there has been only limited identification of the differing resource impacts of research and development, investment, and operations decisions *in program terms*.

I want to make it clear, however, that the existing financial and budgetary system, with its supporting information flow, remains extremely useful. The instruments of fiscal accountability and control will always be required. But we need a supplementary identification within current information systems to provide the basis for new tools for both planners and managers in the Office of Secretary of Defense and the Military Departments.

A parallel can be found at the Ford Motor Company where, in the last fifteen years, a product-oriented type of information system has been developed as a tool for strategic decision making and evaluation of performance—a system supplemental to the traditional structure of financial accounting. As the Controller of the company, Mr. Arjay Miller wrote in a 1958 article: "We make very little use of the conventional financial statements, the balance sheet and the operating statement, in reporting to top management. These reports serve a useful purpose in summarizing the Company's current financial position, but they fail to answer the questions: 'Why are we where we are?' or 'Where are we headed?'"**

The keystone in such a system is a recognition that, although information must be in aggregated form for top management use, the summation must be identical to the detailed shred-out at operating levels. The information must make possible:

1. Translation of national security objectives into meaningful tasks or missions to be accomplished.
2. Preparation of a variety of alternative plans for performing these tasks.
3. Identification of a range of methods for fulfilling alternative plans.
4. Analysis of the feasibility of each of the methods.
5. Realistic time phasing of promising alternatives.
6. Analysis of the potential benefits or

*D. Novick, *Which Program Do We Mean in "Program Budgeting?*, The RAND Corporation, P-530, May 12, 1954. D. Novick, *New Approach to the Military Budget*, The RAND Corporation, RM-1759, June 12, 1956. D. Novick, *New Tools for Planners and Programmers*, The RAND Corporation, P-2222, February 14, 1961. D. Novick, *Efficiency and Economy in Government Through New Budgeting and Accounting Procedures*, The RAND Corporation, R-254, February 1, 1954.

**"*Reporting to Top Management at Ford*", California Management Review, Volume I, Number 1, Fall, 1958, p. 33.

effectiveness of each of the proposed plans.

7. Determination of the resource requirements—time phased and activity identified—for each alternative.

8. Identification of the implementing actions and procedures when decision has been made to execute one or more of the plans.

9. Provision for integration of the implementing steps in terms of both the new decision and ongoing past and current decisions.

10. Monitoring or progress reporting of current status of programmed activities, with continuing comparison of performance against the plan.

11. On completion of each phase of program, final comparison of accomplishment and objective, with supporting analysis of causes of success or failure.

The generation of the foregoing information is almost entirely a function of organizations other than the comptroller's. The comptroller's responsibility is to see to it that those who plan and execute decisions have the information necessary to their jobs. His responsibility begins and ends with the design and maintenance of the information system built around this program concept. The Secretary of Defense, Joint Chiefs, Department Secretaries, and Service Chiefs use the information to develop sound plans, assure the means for integrated execution, and provide for appropriate revision when necessary.

The budgetary process for FY 1963 now underway in the Department of Defense represents a significant *first step* towards the full-scale introduction of the program concept, and all its attendant benefits of systematic analysis of alternative courses of action. We may predict that there will be difficulties, because this is a complex and striking change in procedures and underlying thinking. But it should develop for the first time, at least, rough data in *program* terms. Out of this experience will come a capability for doing a much better job next year. The important thing is not that the current budget exercise may fall considerably short of brilliant performance. Rather, it is that a start is being made toward building a necessary new management tool.

This new approach is built around instructions to the military departments to submit budgets for FY 1963 in terms of a defined list of programs, viewed as integrated activities combining men, equipment, and installations whose effectiveness can be related to national security objectives. Total resource requirements for these programs are to be projected forward well into the future and will include RDT&E, investment, and operating costs. These are to be translated from and into the existing appropriation categories. The objective is to provide cost information that is more meaningful for decision-making purposes at the level of the Secretary of Defense and the Joint Chiefs.

I believe that this concept of program information structure presents no difficulty to any one who thinks through the fundamental management problems in the Department of Defense. However, the particular form which that concept takes is another matter. I want to address myself to this issue in this closing section of my remarks. I am concerned because there is an opportunity for misunderstanding by management at both the policy and the operating level.

There is compelling reason to ask for resource cost information for a rather extended list of proposed programs. Alternatives among competing programs and total force structures containing different program mixes cannot be meaningfully assessed in gross terms. The detail is essential for informed judgment.

It is not *necessary,* however, for policy decisions to be made in the same detail of program pieces. In fact, I would argue that it is not *desirable* to do so. Detailed decision making would impose an intolerable strait jacket on operating people, a set of restrictions that would inhibit freedom of action in dealing with a dynamically evolving set of problems. Operators face problems head-on at working level, in a way that policy makers never do. They should have elbow room to handle them promptly within general program constraints. This freedom should be accompanied, of course, with a requirement to report *post facto* (either separately or in connection with the next scheduled requirements submission) what has been done. Such reporting will provide a desirable check on perform-

ance, as well as a stronger foundation for evaluating the next set of program alternatives.

This pairing of detailed information flowing upstream and aggregated decisions flowing downstream is a familiar one in many comparable industrial situations. It also reflects the experience in designing the Controlled Materials Plan in the War Production Board in 1942. Early control proposals contemplated a highly detailed allotment process that would have impressed specific management decisions for extremely thin slices of activity and in terms of large number of shapes and forms of controlled materials. On the basis of controlled experiments, it was persuasively demonstrated that such a control design was both unnecessary and undesirable—in fact, that its imposition would be likely to make CMP substantially unworkable. The plan was refined to accord with these criticisms, and what emerged was what I am urging here—detailed requirements information flowing up to the policy level for analysis and choice among alternatives, combined with rather broad decisions flowing down to the operating managers, giving them requisite freedom to act within defined limits, but with a mandate to record and report back in full detail of the initial requirements submission.

It is extremely important that those responsible for designing and installing the new procedures in the Department of Defense avoid the mistake of overloading — even strangling — the new system by confusing the detail desirable for analysis and choice with the freedom desirable for operating within specified limits. This distinction is critical for the operating success of the new procedure.

KNOW YOUR OFFICERS!

DR. LAWRENCE E. CHERMAK

General Counsel, ASMC

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CONGRESSIONAL CONTROL OF MILITARY REQUIREMENTS

Lawrence E. Chermak, Counsel, Comptroller of the Navy

Currently, most of the controls exercised over the funds to be spent and the items to be purchased by the Federal Government are exercised by the Executive Branch. Control of expenditures in a particular year is exercised by the President through the Bureau of the Budget. Some congressional control is present in the debt limit established by legislation but, as regards appropriations, Congress will only prescribe the amount of new obligations which may be incurred. Obligations incurred in past years and obligations incurred currently from appropriations made for past years and the current fiscal year become the measure of the expenditures to be made in the current fiscal year.

Tied into the authority to obligate and expend is the authority to perform the functions assigned to each military department. This authority has been specific in the case of military construction and fairly general in the case of the nonconstruction items procured by the military. This lack of specific control has permitted the military departments to reprogram their requirements within their budget limitations to meet pressures exerted by the increasing threats generated by advances made in Russian technology. Increased submarine striking capacity, increased missile striking capacity and increased detection capacity by the Russians automatically lift the minimum requirements of defense and retaliation.

The necessity for flexibility becomes more apparent when it is recognized that the budgets in recent years have been related to a money ceiling and not to full military requirements. A certain sum is made available for military appropriations and expenditures, and the military requirements must be made to fit such sum. In the words of Dr. Kissinger of Harvard, "The difficulty with our present budgetary process is, that by giving priority to cost over requirement, it subordinates doctrine to technology. Budgetary requests are not formulated in the light of strategic doctrine. Rather, doctrine is tailored and if necessary, invented to fit budgetary requests."

But in spite of this inability to meet all its requirements the military has sought to fulfill those requirements that the strategy of the moment dictated even though such requirements were not in strict conformance with those justified in the budget. The lack of specific definition in the broad performance budget permitted these changes, after the budget is set, through the device of reprogramming which allows the military departments to vary from their congressional budget justifications by informing the Appropriation Committees of each significant change. Since the authority to perform was covered by broad substantive legislation found primarily in Title 10 of the United States Code, there has been very little need to seek reprogramming from the Armed Services Committees in regard to these program shifts except in the case of military construction.

In the Military Construction Act of 1959 (P. L. 86-149), the Congress has provided by section 412(b) that "no funds may be appropriated after December 31, 1960 to or for the use of any armed forces of the United States for the procurement of aircraft, missiles, or naval vessels unless the appropriation of such funds has been authorized by legislation enacted after such date." Unless legislation finding its origin in the Armed Services Committee of either House is adopted and signed by the President, the initial House action taken to appropriate moneys for aircraft, missiles or naval vessels would be subject to a point of order. Clause 2 of House Rule XXI prohibits an appropriation in a general appropriation bill for any expenditure not previously authorized by law. This rule is of long standing in the House of Representatives and has the effect of keeping the responsibility of authorizing legislation in the Armed Services Committees. The rule is procedural and may be waived. Any duly enacted appropriation bill, since it is an act of Congress, would be fully effective if no point of order is taken. At the same time, there would be no limitations upon the military departments in regard to the expenditure and obligations of such appropriated funds.

If the legislation which is enacted under section 412(b) is a detailed authorization, the detail in the substantive legislation will be a

limit on the action which the military department may take to fulfill the requirements dictated by the ever-changing strategy to meet the moves of the Sino-Soviet bloc. Whenever the projected requirements are greater than available funds, as has occured in recent years, it becomes necessary to anticipate not only the complete satisfaction of the strategic plans at the time of the justification of the detailed legislation but also the almost infinite variables which have become the basis for the reprogramming now accepted by the Appropriation Committees.

The problem of detailed authorization is not unique. In earlier decades it had been the practice of the Congress to specifically authorize each land acquisition required by the Armed Forces. When the task of specific control became impractical, the real property transactions were controlled not by increased specificity in authorization but by coming into agreement with the Committees on Armed Services of the Senate and the House of Representatives before entering into certain types of transactions. This parallels somewhat the reprogramming requirement of the Appropriations Committees. If full justification of particular programs are given to the Armed Services Committees in justification of broad authorizations, then similar reprogramming action within criteria like that required by the Appropriations Committee would be feasible. Otherwise, the definition of authorized weapon systems would fix the limit of procurement adjustment to meet strategic needs.

At present, the measure of procurement action is the authority to obligate found in outstanding appropriations. Fiscal legislation passed in 1958 provides for annual accrued expenditure limitations to be placed by Congress on each appropriation. Thus the control of Congress may become threefold—obligation, accrued expenditure and authorization. Also, the budgets presented to Congress must define full resource usage to comply with fiscal legislation passed in 1956 establishing accrual accounting and cost-based budgets. Cost-based budgets are desirable and useful when employed as controls by the executive branch. They become confining when made a control device of Congress. Obligation control, as presently employed, may be based upon fiscal reports which reflect expenditure flow and resource usage. But such control should not be enlarged at congressional levels by placing limitations on expenditure flow in particular appropriations, limitations as to particular resource use and, finally, limitations as to the particular weapon systems to be procured.

In the case of military construction, the current practice of Congress is to authorize the military departments to construct defined public works at various locations. Each location has a money limitation which may be varied by 5% within the continental United States other than Alaska and 10% overseas, provided the total public works of each military department is kept within its total authorization. In any one fiscal year the sum of the outstanding authorizations is greatly in excess of the appropriations made available to finance the public works. If no action is taken to use an authorization for two years, it is repealed. This permits the military departments to select the public work which is most pressing currently. In addition, blanket authority is given to cover emergency construction under certain criteria. Minor construction requires no specific authorization. Thus, the small detailed construction jobs are accomplished under broad authority. Finally, continuing authority is given to replace or restore public works destroyed by the forces of nature. Furthermore, authority for construction covering research and development projects and related procurement and production facilities is independent of the military construction authorizations. All of these various forms of authority have been evolved through the past decade and reflect the flexibility given in an area as fixed as public works. A greater flexibility would be necessarily required in the area of weapon systems.

The necessity of flexibility in substantive authority which precedes the adoption of appropriations for the procurement of weapon systems is illustrated by the Emergency Fund appropriation given to the Secretary of Defense. Under this appropriation the Secretary of Defense is given 150 million dollars which he may transfer to any military appropriation for research, development, test, and evaluation, or procurement or production related thereto. This automatically will increase the programs justified by this transferred amount. In addition, the Secretary of Defense may transfer another 150 million dollars from other appropriations for the same purpose. Further, an additional transfer authority of 150 million dollars from existing appropriations is available for the acceleration of any strategic or tactical missile or satellite program. Only the broadest justifications can support and define the procurements

resulting from the breakthroughs in research and development contemplated by this transfer authority. A confined authority to perform or do the work would negate the freedom that this transfer authority seeks and currently grants.

Since the requirements covering weapon systems are greater than the fnnds made available for their fulfillment, it would appear that the minimum authorization made by Congress would be for the full requirements of the military departments. The authorization possessed by the military departments in the current fiscal year would permit, with minor exceptions, accomplishment of these full requirements if adequate funds were available. The minor exceptions probably exist in noncombatant vessel tonnage deficiencies. It would follow that a continuation of existing authorizations in the present broad language would satisfy the provisions of section 412(b).

Yet, the Armed Services Committees should be permitted to review the programs presently presented to the Appropriation Committees in justification of the funds sought in each appropriation. This could be accomplished if the continuation of existing authority be limited to the ensuing fiscal year. This would require the military departments to present the program of each succeding fiscal year to the Armed Services Committees before the continuing or even enlarged authority is granted. Variations from the justified programs could be controlled by a reprogramming device similar to that employed by the Appropriations Committees. This approach would keep the authorizing legislation to a manageable size and yet permit corrective action and, perhaps, isolated particular limitations where the facts warranted such action. By correlating all of the facts reflected by the extensive controls and reports employed by the executive branch into a single overall budget control, kept on an obligation basis at congressional level, the management flexibility necessary to the free evolution of counteracting weapon systems will be preserved.

KNOW YOUR OFFICERS!

MAJOR GENERAL WILLIAM P. FARNSWORTH, USAF

Vice President, ASMC

William Porter Farnsworth was born in Montclair, New Jersey, September 2, 1901. He was graduated from Dartmouth College with a Bachelor of Science degree in political science in 1926, and received his Bachelor of Laws degree from Columbia University Law School in 1933.

Recalled to active duty in March 1948, General Farnsworth was executive to the Director of Budget, Office of the Comptroller, at Air Force Headquarters. From September to December 1949 he attended the Harvard Business School, completed the advanced management course, and was reassigned to the Office of the Comptroller as Assistant Auditor General.

Joining the Air Materiel Command in March 1951, General Farnsworth assumed command of the Northeastern Air Procurement District at Boston, Massachusetts. Moving to AMC Headquarters at Wright - Patterson Air Force Base, Ohio, in September 1952, he was chief of the Quality Control Division, becoming Chief of the Procurement Division the following April.

Transferred to the Office of the Secretary of Defense in Washington, D. C. in July 1954, General Farnsworth was Assistant Staff Director, Purchasing and Contracting Policies, in the Office of the Assistant Secretary of Defense for Supply and Logistics. On September 1, 1955, he was transferred back to the Air Force as The Auditor General.

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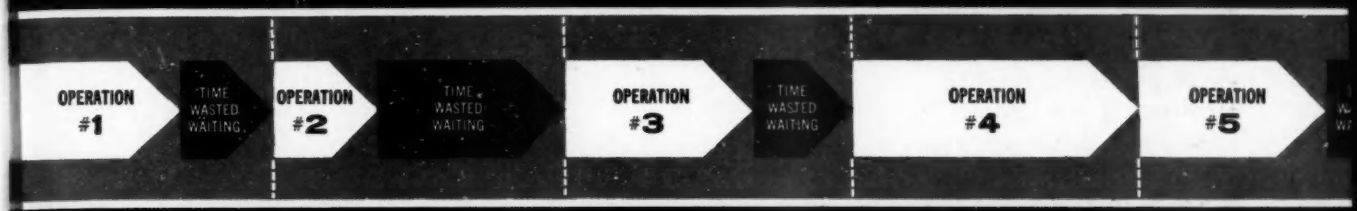

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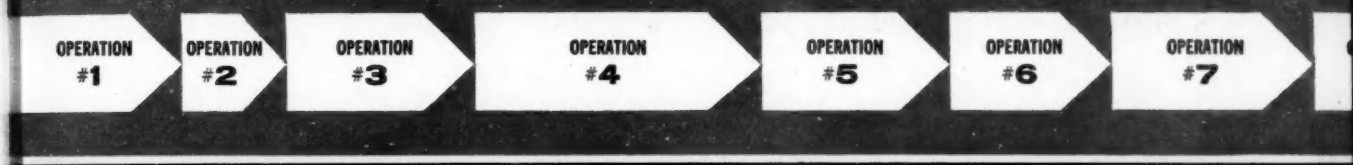

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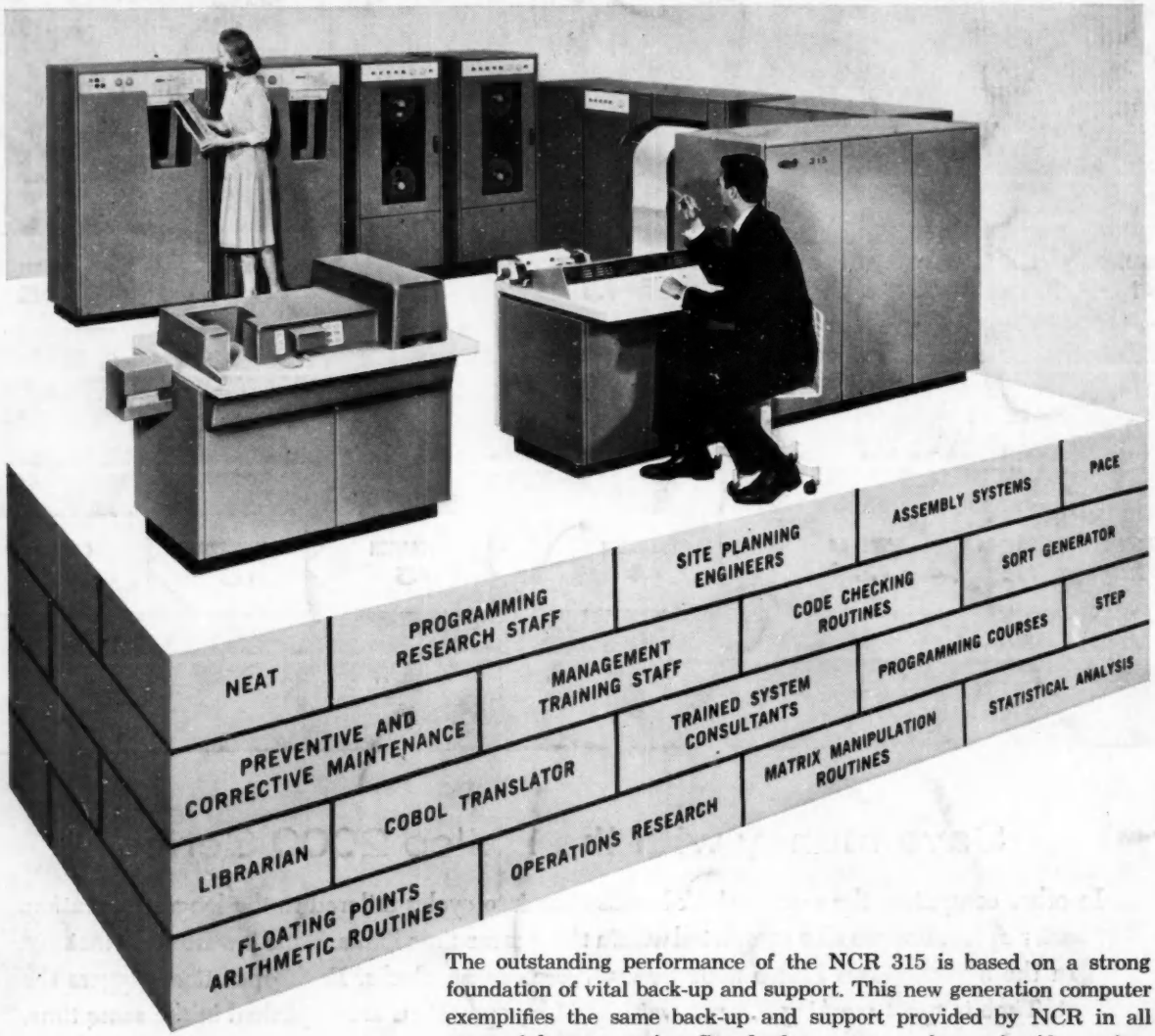

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